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Contents

The KANSAS Anthropologist
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KANSAS ANTHROPOLOGICAL ASSOCIATION

The Kansas Anthropological Association is the oldest amateur archeological organization in the state. Its membership is made up of individuals and institutions interested in the prehistoric and historic peoples of the area. The objectives and goals of the Association are the preservation and interpretation of archeological and ethnographic remains within the state; the scientific study, investigation, and interpretation of archeological remains and ethnographical materials; the publication and distribution of information concerning Kansas archeology and ethnology; and the development and promotion of a greater public interest and appreciation for the heritage of the state.

Types of memberships and dues:

Individual	$12.00	Institutional	$15.00
Family	$15.00	Life	$250.00
Contributing	$20.00	Student	$5.00

Applications for membership and dues should be addressed to the treasurer at the address listed below. Memberships begin on January 1, and annual dues are payable at that time. Students may join for $5.00 from June through August of each year; this enables them to attend the annual training program, but it does not include publications.

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PUBLICATIONS

Each year members will receive six issues of the *Kansas Anthropological Association Newsletter* and two issues of *The Kansas Anthropologist*, the Association's journal. All members and interested individuals, professional or amateur, are invited to submit material to the editor for use in these publications. Five reprints will be provided free of charge to the author of each major article accepted. Additional reprints or back issues of the journal or newsletter, if available, may be ordered from the Historian-Recorder at the address listed above. Prices will be furnished upon request.

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FOUR SEASONS IN PRE-WAR KANSAS ARCHEOLOGY

Richard G. Slattery

The Kansas Anthropologist 16(1), 1995, pp. 1-23

The author cites his experiences as a field party member on four archeological surveys of Kansas and western Missouri during the years 1937-1940. These expeditions were directed by Dr. Waldo R. Wedel, then Assistant Curator of Archeology, United States National Museum. The scientific reports on all work conducted on these surveys are contained in U.S. National Museum publications, Bulletin 183 (Wedel 1943) and Bulletin 174 (Wedel 1959). The author describes his experiences during the archeological investigations and camp life in those days prior to World War II. The sole purpose of this paper is to increase the historical record of archeology within the areas of the prescribed field studies. No attempt to augment the scientific record has been made nor implied.

It was a hot summer day in June of 1931 as three boys in their early teens gave up fishing and steered their canoe towards the Virginia shore of the river. We had not brought any drinking water along, and thirst had driven us to seek out a spring we knew of from previous visits. It was a pleasant journey as we threaded our way through narrow, shaded waterways between the finger-like islands of the Potomac River. After beaching our canoe, we began hiking across a cultivated field toward the spring, which flowed from the base of a hill about one-third of a mile away. It wasn't long before I noticed something different on the ground in front of me. When I picked it up, I realized that I had found an "arrowhead." I next came upon broken pieces of what my companions told me was Indian pottery. It was like I had been struck by lightning! I was never to be the same, and here I was only 13! The next day I took the streetcar downtown to the U.S. National Museum. (I was a latch key kid in those days without the title.) The guard at the entrance gave me a pass to the office floor, where he had directed me to a Mr. Neil Judd in the Department of Archeology. As my explorations expanded, so did my collection and my visits to the National Museum and to the old red stone building that houses the Smithsonian. At this later stage in my life, I treasure those visits I had with Neil Judd, Frank Setzler, Walter Hough, John R. Swanton, Aleš Hrdlička, and T. Dale Stewart. Beginning in 1936, my association and friendship with Waldo Wedel is treasured the most. In 1936 Walter Hough vacated the position of Director of the Department of Archeology at the National Museum, Frank Seltzer moved up to fill that vacancy, and Neil Judd moved into Setzler's position, creating an opening that was filled by Dr. Waldo R. Wedel. At this point Wedel became my major contact. Little persuasion was necessary to prompt him to visit a Late Woodland site along the Potomac River that Hugh Stabler and I were excavating (Slattery and Woodward 1992). Wedel brought along a transit and laid out the site in five-foot squares, so we could properly organize our excavations. He visited Hugh and me at the site numerous times and once or twice he brought Duncan Strong along. It was this association with Wedel that prompted him to invite Hugh and me to accompany him on his 1937 field exploration of Kansas and western Missouri. At that time I was a student at the University of Maryland. None of the local colleges offered anthropology, so I settled for geology and a transfer to George Washington University.

1937

Money was extremely tight that summer for the country was still in the grips of the Great Depression. Dr. Wedel told us that he couldn't afford to pay us, but he could provide food and shelter. Hugh and I withdrew what savings we had accumulated through past part-time jobs, and with a little help from our folks we thought we could make it. I had a 1933 Plymouth that my aunt had turned over to me when she gave up driving, so our transportation was assured. Wedel informed us that a Kenneth (Ken) Orr from Columbia University was also going along

and would like to ride with us. This was fine for he would contribute to the travel expenses. We three left Washington, D.C., on June 1, 1937, and headed for Kansas City, Missouri. Travel in the 1930s was more adventurous than today's easy going along super highways. The main roads like Route 40 were paved but narrow and winding. Crossing the Blue Ridge and the Appalachian Mountains was especially hard on the car engines of the time. The switch-back curves necessary to negotiate the steep mountain slopes slowed cars down, forcing them to shift into lower gears, which then overheated the engines. We saw many cars along the side of the road with their radiators steaming. We felt good that we were able to pass by undaunted; however, we did not know what misfortunes lay ahead. We spent the night with my relatives in Columbus, Ohio. The next day when we reached Indianapolis, Ken talked us into making a side trip to Davenport, Iowa, to visit a friend. I guess none of us realized how far out of the way the detour would take us. We crossed the Mississippi River into Davenport early that evening. I had developed a bad cold, so at my request I was dropped off at a tourist home. (Motels as we now know them had not yet come on the scene; however, small one-room tourist cabins were beginning to appear). The next morning we got off to a late start and headed southwest through Washington and Fairfield, Iowa. All went well until we were in the center of Fairfield, then as if for no reason, the right rear axle on my car broke. We were pushed to a nearby garage where the repairs were not completed until 5:00 p.m. We stayed there overnight and started early the next morning toward our destination. After driving only 70 miles, our other axle broke! We were towed nine miles to Carliton, Iowa, and after a further delay of several hours, we were once again on our way to Kansas City. Smarting from the added expenditures of our precious funds, we finally arrived at our camp at 9:00 p.m. By that time Dr. Wedel and Marvin (Gus) Kivett had just about given up on us. As I recall, we were expected to be at work some two days earlier. Fortunately, Dr. Wedel had the volunteer assistance from Professors Wrench and Berry from the University of Missouri to fill in the gap. They stayed three more days and gave us newcomers a chance to know these pioneers in Missouri archeology. With our arrival the permanent members of the Smithsonian crew for the summer of 1937 (Figure 1) were:

Dr. Waldo R. Wedel, Director
Marvin F. Kivett (Gus), Assistant to Dr. Wedel and cook
Kenneth Orr (Ken), Surveyor
Hugh V. Stabler
Richard G. Slattery (Gates)

Figure 1. Ken Orr, Gus Kivett, Gates Slattery, and Hugh Stabler at the Doniphan site (14DP2), 1937.

Our camp was an abandoned cottage-like structure that previously was used to house employees of the Kansas City Airway Radio facility (Figure 2). It provided a nice shelter from inclement weather and was located close to the Renner site but had nothing else to recommend it. If it ever had water or electricity, there was no trace of it now. Most of the time we set up our canvas folding cots outside where it was considerably cooler for sleeping. We hauled water, cooked on our kerosene stove, and managed everything else the best we could. Gus had the distasteful job of cooking, an added assignment he rarely escaped until 1940 when finally there were sufficient funds to hire a full-time cook. The rest of us were responsible for the cleanup and the washing of dishes. Gus had

Figure 2. "Home" at the Renner site, Missouri, 1937.

to get up earlier than the others to start breakfast. If we were to have cereal, we were responsible for getting the milk each morning for we had no refrigeration. For lunch we always had a plentiful supply of peanut butter and jelly sandwiches to carry to the job site along with a 10-gallon milk can of water, except at the Renner site where our camp was only a hundred yards or so from the excavations.

Early in our stay at the Renner site, we had the pleasure of meeting Margaret and Mett Shippee. Little was I to know that this was the beginning of a life-long friendship. They were great to all of us. When they visited the site, they always brought food treats and frequently had the whole crew over to their home for a grand dinner. Whenever Mett could get away from his carpentry work, he would be at the site, shovel in hand. We soon learned from Dr. Wedel that it was Mett Shippee's letters to him that convinced Wedel to excavate the Renner site instead of directing his attention elsewhere. As a result Waldo Wedel became the first archeologist to describe the pottery that has become known as "Kansas City Hopewell."

As Hugh, Ken, and I all came from the East, we were excited about our trip to the West. As it turned out, we were camped on the outskirts of a city nearly as large as the one we left. This bothered us for a few days, but it wasn't long before we were totally engrossed in the excavations at the Renner site, a Middle Woodland village containing a rather deep accumulation of midden overlying numerous small cache pits. Our excavations were conducted in two adjacent areas of the Renner property. The first was a fenced-in chicken yard, where we dug a 150-foot trench to subsoil level and varying in width from 5 to 10 feet. This was supplemented by two test trenches off to the west, encompassing some 100 square feet of additional exploration. Around the 95-foot marker on the original trench, we located the greatest concentration of cache pits. It was here that we crossed the chicken yard fence on the east and excavated a 55- by 20-foot area in the potato patch (Figures 3 and 4). Great numbers of artifacts were recovered throughout most of the areas excavated, including many pottery and lithic artifacts that provided examples of Hopewell cultural influence.

There are times, even in the lives of archeologists, that a rare and beautiful artifact is found. This happened to me while I was straightening the south wall of my 5-foot square in the potato patch. I was using my shovel to make a nice smooth line for the outside wall when the blade stopped just short of a piece of yellow-brown chert, an inch of which was protruding from the wall. Thinking it to be a scraper, I got hold of it but couldn't budge it. I used my trowel to loosen it a bit, but still it would not move. I knew that I couldn't leave it there but was hesitant about destroying the smooth wall I was trying to create. At that time I noticed a visitor on the site, a Mr. J. C. Braecklein, who was a well known dealer in Indian artifacts. I didn't want him to see this apparently large blade sticking out of my excavation, so I increased my efforts, used both hands, and wiggled the 10.5-inch blade out of the wall (Figure 5). I tried to hide it in my World War I surplus gas mask bag, but it was too long to fit sideways or completely lengthwise. I settled for the latter, leaving about 2 inches of it sticking out. In minutes he stopped by to see what I was doing. Mr. Braecklein spotted it right away and asked to see it. As soon as I handed it to him, he said, "I'll give you $80.00 for it!" I quickly told him it wasn't mine, it belonged to the Smithsonian Institution. During the month of June, we excavated approximately 2,000 square feet (204.38 square meters) of the site, which contained 36 pit features.

In those early years of government service, the work schedule was 5½ days a week. This did not leave us much time for recreation. However, on what time we had, we frequently went into the big city to see a show or swim at the Play-More pool. My, that water felt good after bathing in a bucket since arrival. On one visit to Kansas City, we came across a rather needy looking individual, standing on a street corner with three small puppies in a basket. We stopped to look and soon saw that they were border collies or sheep dogs. The net result of that hesitation was that I bought one of the males for the asking price of 50¢. I was told that I could get his pedigree for the sum of $2.50. Since this was way beyond my budget, I passed up the papers. I immediately named him "Kansas."

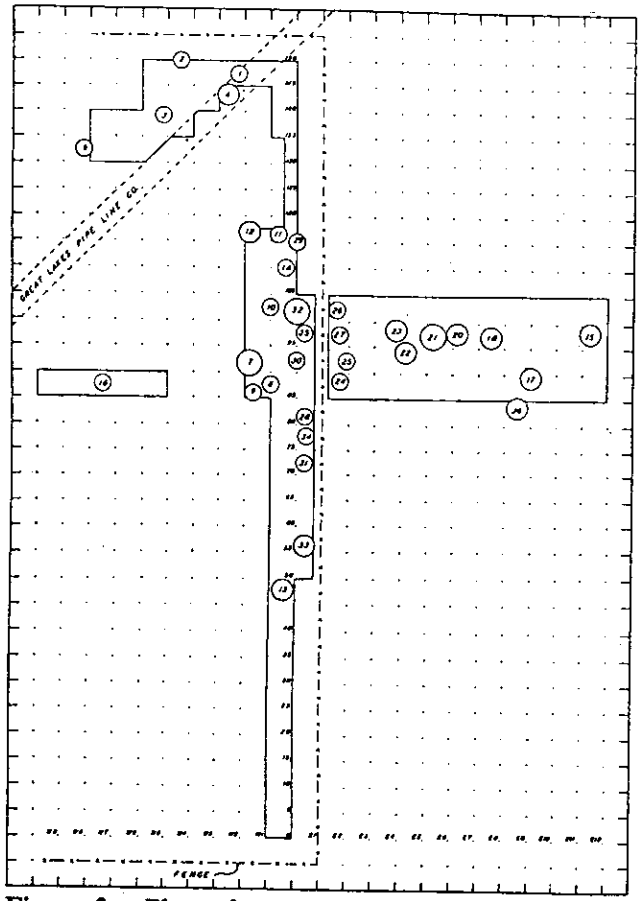

Figure 3. Plan of excavations at the Renner site, showing location of pits (from Wedel 1943:20).

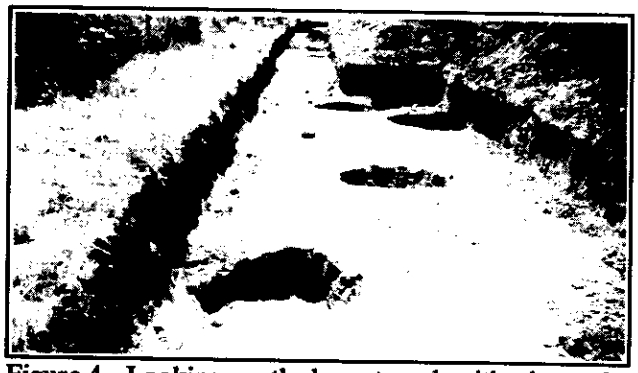

Figure 4. Looking south down trench with pits at the Renner site, Missouri, 1937.

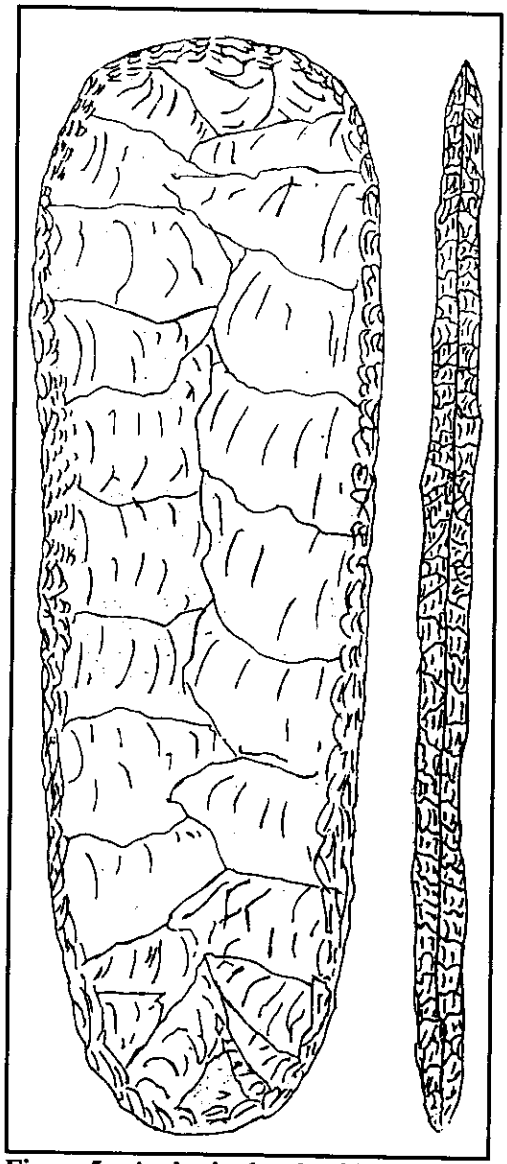

Figure 5. Author's sketch of biface from the Renner site, dated 6/16/37. Artifact is 10½ inches long and ½ inch thick.

One weekend afternoon we all were invited to visit H. M. Trowbridge, who lived in a nice home back from the Missouri River bluffs in Wyandotte County, Kansas. Besides having a Hopewell-related site in his backyard and a fine array of artifacts therefrom, he had an unbelievable collection of Spiro Mound material. We first spent the better part of an hour viewing his local material. With our knowledge of the recovered artifacts from the Renner site, Dr. Wedel pointed out an unmistakable similarity, as well as a few noted differences, between the two occupations. Next came our opportunity to see the collection of a small portion of the

magnificent artifacts that pothunters carelessly looted from the Spiro Mound, located in Le Flore County, Oklahoma. Mr. Trowbridge was in a position to obtain and preserve large but fragmentary pieces of brightly colored cloth, beautifully engraved conch shell gorgets, copper objects, and most striking of all, two of the famous Spiro flint maces. This was a visit that none of us would ever forget. In fact the following year two of us took a side trip to Spiro, Oklahoma, to visit the site of the Spiro Mounds.

On the 29th of June, all five of us spent the day filling in our excavations. The next day we broke camp and moved north to Doniphan, Doniphan County, Kansas. Here we didn't have a sheltered building to move into, so we set up our tents on the crest of a high bluff overlooking the Missouri River valley. Our campsite had previously been a farmstead, long since abandoned. In fact the town of Doniphan was as close to being a ghost town as possible and still keep an open general store with a post office in one corner. We were told that Doniphan used to be a bustling river town with a steamboat landing and stores for outfitting travelers heading west. All that was before the Missouri River decided to cut off the bend in the channel that served Doniphan and leave the town high and dry at the end of a useless oxbow. The only water available was a town pump, located across the gravel street from the general store. This pump seemed to serve most of the few remaining inhabitants and of course us, who now lived at the top of the hill. It was a steep climb on foot up the dirt trail to our camp and worse yet in a car if the ground was the least bit wet. Fortunately rain was a scarce commodity in 1937, so this problem seldom arose. Each morning, while Gus was fixing breakfast, someone had to drive down to the general store to get milk, pick up the mail, and cross the road to fill up the 10-gallon water can. This chore was a shared responsibility of Ken, Hugh, and me. Fortunately groceries were dirt cheap during the Depression, so we didn't fare too badly. For example eggs sold for 12¢ a dozen. For breakfast we often had scrambled eggs and cereal, and infrequently bacon, but always coffee. Most of the time we enjoyed pancakes with Karo syrup. These were cheap and filling. We ate on tin plates and used discarded tin cans for coffee cups. If we didn't like the way something was cooked, we would say, "This _____ is terrible, but it is just the way I like it." Nobody wanted the extra job as cook. We ate what was provided for we knew we would expend a lot of energy before the peanut butter and jelly sandwiches at noon. The number of these delicacies seemed limitless. I recall downing five or six as the standard lunch. Dinner was more unpredictable, but usually the main feature was beans. They were purchased dry in a cloth bag. They were then soaked in water for a period of time not known to me, then boiled and served. To supplement the beans we had another staple, canned salmon. This was the cheapest thing you could buy. It sold in the stores for 10¢ a large can. We saved money on this by purchasing it by the case. It was so cheap because salmon were plentiful prior to the construction of the Columbia River dams. Meat was scarce due to its relatively high cost. I usually didn't do the shopping, but once I was sent to the store to purchase a special treat. I believe we were having visitors that night, so I was told to get 14 pork chops (2 apiece). I was aghast when I had to pay 75¢ for the lot! Without refrigeration we couldn't keep butter, so we bought oleo margarine. At that time it came in a clear bag, was pure white, and looked like lard, except on close inspection one could see a small orange disc of coloring inside the bag. The object was to squeeze the bag repeatedly for at least 10 minutes to get the color evenly distributed throughout the lard-like substance. We performed this distasteful task several times before giving it up to settle for a white, lard-like substance on our bread and hot cakes. Somehow it tasted just as good.

Now you can imagine that after camping on one spot for a few days, all the flies in the area would soon learn of our presence. We had no screens on our dining tent, so we were unmercifully pestered by these bothersome insects. We were forced to eat with one hand, constantly waving to avoid eating the creatures with every bite. At night they loved to roost on the ceilings of our tents so that they would be close by to resume their torment at daybreak. Well, we were not long at this camp before July 4th arrived. We took this holiday to stock up on firecrackers and plan our retribution. It was a simple attack, just a 2-inch salute, covered with

Karo syrup, held by a willing volunteer, who was stealthy by nature and had a steady hand with a lighted cigarette. After the explosion a great sound of joy reverberated through the camp as we tallied the dead and injured. So successful were we that we repeated the attack several more times. That night, as we shown a flashlight on the ceiling of our tent, we could see no difference at all.

Our camp was close to our work, so we walked to the site (14DP2) carrying our lunch, that huge can of water, and assorted tools of the trade not already stashed at the site. We began by shovel testing the bluff behind the camp. We soon found a midden area, laid out a trench line, and shortly were excavating cache pits of various sizes. It was only an hour or two before we found metal in our pits and realized that we were on a historic contact site. It wasn't long before we were called over to a spot in the apple orchard where Dr. Wedel and Gus had found evidence of an earthlodge. All five of us pitched in to remove overburden, and soon the fireplace was located. We had no idea how large the house would be, so we threw the dirt as far as we could away from the fireplace, as this feature was nearly always in the center. We did not have a wheelbarrow this season, nor did we on any of the three future seasons. We simply moved all the dirt by shovel, and if we hadn't thrown it far enough or had thrown it in the wrong place, we moved it again. This earthlodge turned out to be huge, some 36 feet across and 30 inches deep in much of the area. We were forced to block off one of the mature apple trees in order to locate the extremities of the house.

While the house excavation was in progress, A. T. Hill paid us a visit. I believe that anyone who was into archeology in those days would agree that A. T. was the most unforgettable person they had ever met. I don't know how old he was at that time, but I would guess that he was in his mid-60s. He always wore a red bandanna around his neck and a pith helmet and carried a cane. He chewed tobacco, and back in camp he could tell the dog-gonedest stories you ever heard. I vividly recall one of these that I can put in print.

Sometime before the advent of automobiles, A. T. had a horse and wagon and sold soap to housewives living on widely scattered ranches in Nebraska. He sold the soap by the case, but he let the housewife try out one bar that he gave her free. After she was well satisfied with the quality, the case was purchased. A. T. would thank her and move on, knowing that he would be long out of the county before she used up that free bar and discovered that all the bars in the case were plaster!

A. T. was evidently quite well to do, having been very successful selling autos during those early days when everyone was eager to buy their first car. In later years when he was into archeology, it is said that, if he was denied permission to excavate a site that he badly wanted to explore, he would buy the farm. As an avocational archeologist he became very knowledgeable and respected by professionals working in the Great Plains, including Duncan Strong and Waldo Wedel. His expertise in excavating earthlodges gained him wide fame. He was rewarded by an appointment to the position of Director of the Nebraska State Historical Society, which he held until succeeded years later by Marvin F. (Gus) Kivett.

Shortly after we completed House #1, Loren Eiseley arrived. He was a good friend of Dr. Wedel's and eagerly pitched right in to help us excavate House #2 (Figure 6). This was to be a smaller earthlodge than House #1, and I believe none of us was sorry.

Figure 6. Loren Eiseley and Waldo Wedel with Pronto in House #2 pits at the Doniphan site (14DP2), 1937.

The weather had been dry for several weeks, and dust was everywhere. The Missouri River oxbow at Doniphan had all but dried up.

However, there was one small pool about 10 feet across that remained. From the top of the bluff, we could see movement in the pool and had visions of a fresh fish dinner. Hugh and I took a .22 rifle down to the pool to investigate. Sure enough, the pool was full of large fish. We shot five or six long, skinny ones (Figure 7) and brought them back to camp for a feast. Gus took one to look at our "catch" and pronounced them as gars and unfit to eat. Used to fishing in the Potomac rapids, Hugh and I had never seen garfish before. We sadly buried them with thoughts that "they would have died anyway." However, that night we had a terrible thunderstorm with high winds and torrential rain. Hugh and I were a bit more than mildly concerned that we were prime candidates for being struck by lightning as our tent was pitched at the base of the tallest tree on the bluff. We were soon out of the tent anyway, when we heard that Dr. Wedel's umbrella tent had blown down and others were about to go. All of us were soon out in the gale, resetting stakes and helping salvage Dr. Wedel's soggy belongings. The next morning we looked down at the oxbow where we had been "fishing" and were amazed and secretly sorry for the fish to see the entire channel filled with water. We learned at the general store that we had 4 inches of rain that wild night.

Figure 7. Author with string of gar, Doniphan County, Kansas, 1937. Photo by Hugh Stabler.

Atchison, Kansas, was our closet town of note, and we frequently drove there over the gravel roads. Unlike the roads in the East that seemed to wind in every direction except straight, these roads were straight, for awhile that is, until you came to a 90-degree corner at a section line. The driver would then be forced to slow down nearly to a stop, make the turn, drive another mile, make another right angle turn, and so on. We soon partially solved this aggravation by speeding into the turn, cutting the wheels sharply to the right (in the case of a right turn), and letting the car slide on the gravel until it was completely 90 degrees from its former position, all the time with our feet on the gas pedal. We never saw anybody else doing this and often wondered what others might have thought.

Again as we began excavating House #2, we used the tried and proven technique of locating the fireplace first. This was accomplished by intense shovel testing in an area that yielded daub and other cultural material. It usually didn't take long before we located ashes, charcoal, and deeply burned earth, and we knew that we had the approximate center of the lodge. We then moved the overburden away from the fireplace and began searching for the first center post. From experience it was expected that the four large center posts would be set half way between the fireplace and the wall posts. When the first one of these was found, we would measure the distance from the center pin in the hearth to the center posthole. We then knew how large an earthlodge we had by doubling this measurement and scribing a circle. On a round house we then knew where to look for the outside wall posts and also how far we had to throw our dirt. The doorway was normally to the southeast but could vary slightly, so as we uncovered the wall postholes, we looked for a gap when we neared the southeast compass point. That would be the doorway. Two or more cache pits were usually found in an earthlodge. These would be excavated, leaving the walls intact as we did with the post molds. I never heard this discussed, but our excavations did not destroy the integrity of the feature. After the feature was backfilled, theoretically it could be reexamined at some future date by simply removing the fill dirt.

There was one ritual relating to the excavating of earthlodges that I have not covered and that is the important function of photographing such a large feature. For the much needed altitude we borrowed the tallest ladder we could find. At the Doniphan site we had to settle for an 18-footer. This ladder was set some 10 feet or so back from the rear of the

house. Two ropes were tied to each of the vertical braces at the top of the ladder. The ladder was then hoisted into a vertical position with four people (two on each side) holding the support ropes. It was now ready for the photographer to climb. (Note this procedure in Figure 16.)

On Sunday, July 18th, the Shippees arrived right after our breakfast and visited our excavations. Soon thereafter Dr. Wedel's folks (mother, father, sister, and aunt) arrived, bearing lots of food--chicken, cakes, etc. All this, plus the food the Shippees brought, kept us in treats for some time. After visiting for awhile, Hugh, Dr. Eiseley, and I drove up the Missouri River a few miles on an exploration trip. We stopped at a farm house where we spotted a mound on top of a bluff overlooking the river. Two farmers told us of another likely spot on the "Evans place." Here an elderly man met us. He told us that, when he was a young man, he worked on the farm we just left. An old lady, then in her eighties, told him of the Indians who lived near there when she first moved out to Kansas on a homestead. The old man went on to describe perfectly the "Indian dugouts," the same type of houses we were now excavating. We were not far from the Doniphan site at that time, and it seemed reasonable to suspect that the reference to the "dugouts" could relate to the site we were on.

After filling in all the excavations, we broke camp on July 24, 1937, and moved north about 20 miles to the village of Sparks, Doniphan County, Kansas, located on the Wolf River. Up to this point no mention has been made of the trailer we used to transport all of our gear. No ordinary trailer would deserve any mention at all, but we didn't have an ordinary trailer. Our trailer consisted of the body of an early 1920s touring car with the front end removed, the sides boarded up, and the canvas top retained. It had four wheels, which made it almost impossible to tow. As Dr. Wedel pulled it down the road, someone would always drive behind the contraption to see that nothing shook out of it every time it went into a dance, as most 4-wheel trailers are apt to do if they exceed 20 mph.

We set up our camp in a wooded grove north of Sparks. There was a small stream, little more than a trickle that flowed behind our tents. This small water source was to become our bathing facility, hardly adequate after spending a hot, dusty day in the field but far superior to a bucket. After all, a spartan lifestyle was becoming the norm by now. It soon became known around town that we were making frequent trips to the swimming pool at nearby Eagle Springs. As a result we had to endure a lot of kidding about this.

Once while camped at Sparks, we killed a large rattlesnake which we skinned, cleaned, and cut up into 5- or 6-inch lengths. The next morning we had it for breakfast. As usual no one spoke much at that hour, but the silence was broken when Gus, sitting at the end of the table, said, "Please pass the snake." Then we all realized what we were eating and had a good laugh. Needless to say our relations with the townspeople did not improve after word leaked out that we had eaten snake.

Washing clothes was a real chore. There was no such thing as a laundromat since automatic washers had not yet been invented. The only options were to pay someone to wash clothes for you or do them yourself. We chose the latter, and that may explain why most of us are photographed wearing as few clothes as possible.

The Fanning site (14DP1) is a large Oneota village containing numerous cache pits and middens. It was a rather simple matter to locate these features by observing the concentrations of cultural debris on the surface. Of the 46 cache pits we excavated, only Pits 10 and 18 have had a lasting memory. Pit 10 remains to this day the largest pit I ever dug. Shortly below the plow zone I had established the diameter at 7 feet, 10 inches (2.39 meters). Without any constriction in the diameter, charcoal, ash, and a wide variety of cultural materials continued straight down through the hard-packed fill. As the depth increased, so did the height of my dirt pile. Probably for the effect it might have, I had decided to make one big pile on the east side of my excavation. The pit bottomed out on the second day at 5 feet, 6 inches (1.67 meters). I was now calling it an inverted silo and took little comfort in knowing that I was not the first one to excavate it. I was putting the finishing

touches on the wall when I discovered to my dismay that cultural material was still appearing in the east wall! That could mean only one thing. There was a companion pit, bisecting Pit #10, under my dirt pile! Two days later I had moved the huge pile of dirt and excavated Pit #18 to a depth of 5 feet. At completion I looked at the huge excavation with subdued satisfaction for I knew that I would have to backfill it before long.

One Sunday Hugh and I drove up to Rulo, Nebraska, to visit the Leary site. We filled a couple of sacks full of sherds, scrapers, points, etc. The pottery was so thick on the surface that we soon kept only the decorated pieces. On the way back we pulled into White Cloud, Kansas, to get a bottle of pop and noticed that something was going on. There were women in long, colorful skirts running from store to store. We entered one store for our pop and immediately realized that a group of gypsies had entered the town. One of the women was keeping the storekeeper occupied while another was placing merchandise in her skirt. We walked outside as a large Indian sheriff ran by us, waving a .45-caliber revolver and in hot pursuit of the gypsies. By this time they had all quickly retreated to their several dilapidated cars and were leaving town with their loot. The thought came to us that our camp was in plain view of the road, and they were heading in that direction. We soon passed them on the road to Sparks and also passed property owners standing at the ends of their farm driveways holding shotguns. We realized that the word had travelled fast. We found some people at camp and warned them to be on the lookout. As the caravan reached town, they staged the same assault. I was at the local gas station as one of the women was trying to tell the proprietor's fortune and at the same time picking his pocket. True to the legend of that time, the mothers had cleared the streets of their children in fear of the gypsies.

After excavating an earthlodge, several middens, and a total of 46 cache pits, it was time to move on. As usual we backfilled all of our excavations by hand and broke camp on August 14, 1937. This time we headed west to Manhattan in Riley County. Dr. Wedel had made arrangements for us to set up our camp in the city park. It seemed like a strange place for tents and the like, but we soon forgot the lack of privacy when we saw the showers and other modern facilities that would be available to us. It was terribly hot and dry, well over 100 degrees, the day we moved. Cars didn't have air conditioning in 1937, but you could open the windshield and get all the hot air you wanted.

The first thing Monday morning we were out scouting areas in Dr. Wedel's investigative plan, shovel testing likely spots. The ground was so dry and hard that we had to jump down on our shovels to get a bite of earth. On the third day we had located an earthlodge on Wildcat Creek, the Griffing site (14RY21). It seemed that Wedel had a direct line to A. T. Hill wherever he might be, for every time we located a house, A. T. was soon to appear. A. T arrived at our camp that evening and brought Paul Cooper along with him (Figure 8). We always enjoyed A. T.'s visits and were pleased when he seemed impressed with what we were doing. This time Dr. Wedel had to leave camp for the day, and A. T. guided us through the excavation of our first square earthlodge, which was a respectable 36 feet across (Figure 9).

Figure 8. Ken Orr, Paul Cooper, A. T. Hill, Waldo Wedel, Gus Kivett, and Hugh Stabler in House #1 at the Griffing site (14RY21), 1937.

Figure 9. Waldo Wedel and A. T. Hill in House #1 at the Griffing site (14RY21), 1937.

For the first time since we arrived in Kansas, we got an unobstructed view of the Great Plains just south of town on the other side of the Kansas River valley. We easterners would sometimes drive up on top of the bluff to hear the coyotes and enjoy the solitude and the view.

While in the Manhattan area, we located the site of the historic Kansa village (14PO24). Here we excavated one round house, measuring 29 feet in diameter, and several cache pits, containing mostly metal objects (Figure 10). Time was running short for us, so we had to curtail our investigations of the Kansa village.

Figure 10. House #1 at the Kansas Village site (14PO24), 1937. The man is probably Ken Orr.

On August 29th we broke camp for the last time in 1937, said our goodbyes, and each headed our separate ways. Hugh, Ken, and I decided that we had enough money to vary our homeward journey slightly, so we drove south to Ponca City, Oklahoma, with plans to go east through the Ozark Mountains.

All went fine until we were traveling south on a gravel road 9 miles north of Vinita, Oklahoma, when we lost a rear wheel and axle while going 55 to 60 mph. Fortunately we didn't wreck the car, but we had a real mess (Figure 11). After awhile a truck came along and gave me a lift into town to get help. There was a car garage right in the middle of town on the main street. The owner drove out and towed us the 9 miles back to the garage. The left rear wheel drum was in bad shape, with the remains of the bearings welded to the drum. There were no parts in town for a 1933 Plymouth, so the mechanic drove to Tulsa at least 100 miles away. That in itself was enough for us to worry about the final cost of this repair. There was no such thing as credit cards then. All charges were cash

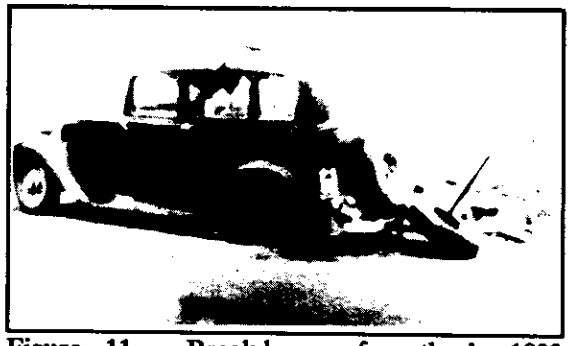

Figure 11. Breakdown of author's 1933 Plymouth near Vinita, Oklahoma, August 30, 1937.

on the barrel head. We noted that there was a slightly sloping roof on the garage, flat enough to sleep on. With permission granted, we used their ladder to climb up and spread our sleeping bags--much to the concern of an elderly lady who lived in the adjoining building one story above our roof. In the morning we found out that the mechanic had not returned from Tulsa until 11:30 p.m. The roads were bad, and he had a lot of trouble with his car. We worried some more. We cooked our eggs in the alley over a fire made from scrap wood. The mechanic spent the entire day with a blow torch trying to smooth out our damaged drum. This meant another night on the roof, so we repeated the night before. The next day at 5:00 p.m., the car was ready. We nervously asked him how much we owed him, and he said, "The very best I can do for you boys is $12.50." (All young men were called "boys" until they were nearly 25.) I don't recall how much we had after paying the bill, but I do remember that we figured we had enough for gas and next to nothing for food.

Through the Ozarks we stocked up on green apples from passing orchards and supplemented these with bread and apple butter. The latter we shared with "Kansas." We did make it home minus a muffler, which was left by the side of an Arkansas dirt road, with less than $2.00 among the three of us.

1938

It was 2:00 a.m. when I drove into Kansas City to discharge my hitchhiker "companion." I had picked him up shortly after crossing the Mississippi River at Hannibal. I didn't make it a habit to pick up strangers along the road and

in fact had passed up many as "Kansas" and I drove through one little town after another. But now it was different. I was getting tired and lonely. There is just so much conversation a person can have with a dog--even a really smart dog like "Kansas." Around 5:30 that afternoon I stopped to pick up the next hitchhiker I saw. Before he boarded the front seat, I could tell he was what was called a tramp back in the 1930s. In a way I was relieved that he didn't have any luggage, which would mean that he wasn't going far. I asked him how far he was going and discovered that he was deaf, even though he was not an old man. With that all hope of having a conversationalist along was lost. I raised my voice a couple of octaves and asked again. This time he asked me how far I was going. When I told him Kansas City, he said, "Might as well ride along." My heart sank at the thought of having this guy along for the rest of the trip. In fact he didn't even smell too good. "Kansas" usually slept as we drove, but now he was alert with eyes wide and his front paws on the back of the front seat between us. At times I could discern a low growl. Perhaps an hour later we stopped to eat. It was then I discovered that my passenger didn't have any money either. On our way once again, I asked him if he could find me a book of matches in the glove compartment. After he started pulling everything out, I realized that I had put a .32-caliber pistol and a box of shells in there (why I don't know), and he had obviously seen them. This was scary for awhile, and I watched him like a hawk, but later I forgot about it. A couple of hours further down the road, I stopped at a small town drug store for a pack of cigarettes. I took the keys and ran into the store, leaving my rider and "Kansas" in the car. It was then I again remembered the pistol and had visions of the hitchhiker loading it at that very moment. On the way out of town, I turned the car radio on to a police story and made a silent prayer. For at least an hour I thought that he would pull the gun out at every dark and lonely spot along the road. After the hour had passed, I felt that it would have happened if it was going to and looked forward to arrival in Kansas City, where he could exit at the first street corner. I have always wondered what went on between the hitchhiker and "Kansas" while I was in the store.

It was too late an hour to try and find Dr. Wedel's camp even with good directions, so I parked behind a gas station and waited until daybreak. After a couple of hours of fighting mosquitoes, the first rays of light were a welcome sight. As I suspected, Wedel's directions were right on the money. I drove through a little village of Waldron, Missouri, turned right at the designated corner, and found the camp right beside the gravel road northwest of town. Gus was getting breakfast when I arrived and was I glad to see him! "Kansas" and Pronto (Dr. Wedel's dog) immediately got into a fight. They were together last season but probably had been glad to forget each other. After all that commotion the rest of the crew was soon on their feet. I was the last one to arrive as usual. The 1938 crew (Figure 12) was as follows:

Dr. Waldo R. Wedel, Director
Marvin F. Kivett (Gus), Assistant to Dr. Wedel and cook
Richard Cooke (Nevada), Surveyor
J. Mett Shippee
Karl Schmitt, Jr.
Kenneth Orr (Ken), Surveyor
Richard G. Slattery, (Gates)
Alvin E. Peterson (Pete), volunteer for two weeks

Figure 12. Pete Peterson, Nevada Cooke, Pronto, Mett Shippee, Gates Slattery, Karl Schmitt, Waldo Wedel, and Kansas at stone vault mound near Waldron, Platte County, Missouri, 1938. Photo by Gus Kivett.

Karl Schmitt, a good friend of mine, was a student at George Washington University and, like me, was hooked on archeology. In fact I first met him in a corn field when I was about 14

years old. We were friends immediately. Karl later was to attain his Ph.D. from the University of Chicago and went on to teach at the University of Oklahoma. He was a good archeologist and had a promising career ahead when sadly he was killed in a car/train collision in 1952. It was good to see Mett Shippee again and to learn that he would be with us full time this summer. Ken Orr, who was with us last year as our only surveyor, could now work along with Richard Cooke. This alleviated one of us being called off an excavation project to "run the rod." Ken was always in there excavating when he wasn't behind the lens. Richard, "Nevada" as we always called him simply because he was from that state, was a Harvard student and seemed a bit aloof--except when we played cards. Here he was the expert. His eyes would light up at every game, especially after he had cleaned each one of us out of all the Missouri and Kansas mills we had. In a game like that it was easy to lose as much as 5¢. Speaking of money, we were paid this year: $45.00 per month, or as we liked to think of it, $1.50 a day with food and tent! We thought we were in clover, so to speak. At that time there were men who were raising families with no more than that. Ten dollars a week was a common wage, that is, if you were lucky enough to have a job.

Well, it soon was time to introduce me to the site and start my first day's work. Right off we had to climb up a very steep bluff to get to the stone vault mounds on the top. Climbing the bluff wasn't the challenge. It was carrying one of the handles on that full 10-gallon can of water and climbing the bluff! I kept wondering how the 7 of us could drink all that water in the 10 hours we spent on that hilltop, but we did. This summer we decided to take two hours off at lunch to rest, sipping water, under a big shady tree during the hot noonday sun. We made up for it by working that much later.

As we reached the top, I saw the rolling crest of the bluff planted in wheat with the exceptions of the crests of each rise. Here was a tight grove of trees and brush sprouting from a cap of limestone rocks. These were our mounds, and the order was to clear them of all trees and brush so that we could whisk them clean for photographing, then excavating. We started right away, using axes and a saw (no chain saws in the 1930s). Of course the mounds were covered with poison ivy. Karl was very susceptible to this malady, so he was excused from direct contact with the stuff. We went to work on the first mound, cutting and pulling and piling it all on the burn pile. After we had a good fire going, all the removed trees and brush were added until we had it all cleaned off. All this time Karl was keeping his distance; however, when we returned to camp he was already scratching. The next day he was in misery, covered from the soles of his feet to the top of his head with running blisters and chigger bites. The latter he tried to remedy with dabs of kerosene. The mix was nearly fatal, at least he had reason to think so. It seems that Karl had contracted the poison ivy by just walking through the smoke of our burning fires. He was taken to the hospital, where he stayed for a couple of days. Then he was taken to Margaret Shippee, where he received the very best of care until he was well enough to return to work.

We were told to get typhoid shots before we came, and I am sure all of us were glad we did. Our well was across the dusty road, almost level with the ground and covered by a few widely separated boards. It was very seldom that a car traveled that road, but when it did, the road dust couldn't help but blow in. The well was equipped with a leaky bucket that we lowered and raised with a rope, always dropping in more dirt. We drank from this well all summer, and no one was the worse for it.

There was another thing about the camp--the mosquitoes! I can handle poison ivy just fine, but mosquitoes drive me crazy. I wasn't the only one who noticed that the annoyance seemed to slack off about 11:00 p.m. It wasn't many days before Dr. Wedel suggested that we all go into Leavenworth for a beer (3.2) and kill time until about 11:00 p.m. There were no dissenters, and this soon became a ritual. When we returned, either we didn't notice the bites or the mosquitoes didn't like us. Either way we got some sleep.

In spite of the tough job of cleaning off the mounds, I believe that all of us were fascinated with the excavations. I recall one mound that had obviously been used as a crematory. Inside the square, well built vault walls, there was a

thick deposit of charred and pulverized human bones. This lay on top of 6 or more inches of solid burned earth, reddish orange and brick hard. Even the walls of the limestone chamber showed signs of intense heat. At the time I looked around me at the commanding view this spot had of the valley below and tried to imagine the scene when these crematory ceremonies were taking place. For miles around and down in the valley, one would see this great fire on the very top of the bluff. Those with a stance close enough would observe the actual ceremonies, which had to be most elaborate, befitting the structure at the center of all this attention (Figure 13).

Figure 13. Karl Schmitt at entrance of stone vault mound near Waldron, Platte County, Missouri, 1938.

When we didn't make the longer trip into Kansas City, we settled for a free movie, shown on the side of a barn in downtown Waldron. This didn't rate four stars for exciting entertainment, but after all it was free. Our next level of entertainment was a free movie on a screen set up in a green strip down the center of the main street in Parkville, Missouri. There were a few more stores here and of course a few more people. One Saturday afternoon Dr. Wedel took us all to the race track to see the horses. We all watched, but no one spared any money to risk a bet. I'm not sure where Nevada was.

Our next project was to tackle the Steed-Kisker Village site located near Farley, Missouri. This site was close to our camp so, unfortunately, we didn't have to move. We spent the first couple of weeks excavating trash pits, a large midden, and one 23-foot-diameter earthlodge. Afterwards we carefully tested an area on a sloping field where it was reported that human bones were leaching out after plowing. We soon discovered that there was much more here than an isolated burial or two, so we set up a 5-foot grid system over the entire slope. We proceeded to excavate the area we had placed in our grid, and in doing so, we left exposed each burial we encountered. Somehow word of this excavation drew the attention of the Kansas City newspapers, and after an article or two appeared in a prominent newspaper, we were flooded with visitors. We even were forced to put up a string or cord barrier around our excavation to keep the crowds back. We also lost working time answering questions that were directed to us constantly. The 83 skeletons we uncovered turned out to be in very poor condition, due either to an acidic soil or to the shallow depth that they originally were interred. In most cases only the long bones and the skulls remained. As a result only those remains that could withstand movement were removed. The rest were left in place and covered over during our backfill operations. The physical anthropological studies of the retained remains would provide clues as to the cultural relationships of these people, their origins, etc. This information would reside at the Smithsonian where all would have access to the knowledge they possessed. Of course there was no "Politically Correct Movement" in our day, so we did what we thought was right with no apologies or regrets. One complete pottery vessel of extreme importance was recovered from the excavation, linking this group with the Middle Mississippian cultures of the lands farther east (Figure 14). Other grave offerings were rare but important in their own right.

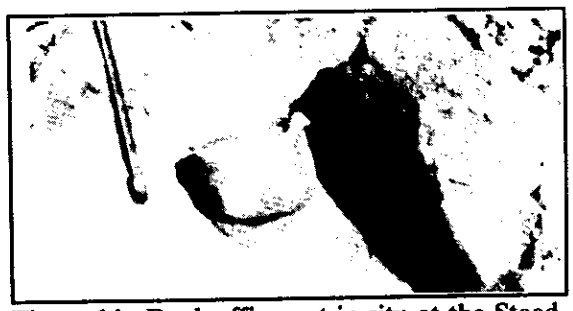

Figure 14. Duck effigy pot in situ at the Steed-Kisker burial site near Farley, Platte County, Missouri, 1938.

It isn't easy to rationalize why human burials attract such disproportionate crowds of spectators as opposed to ancient house floors and cache pits. It seems to relate to a deep fascination with the dead, like elephants observed fondling the bones of their departed. I don't believe that this human curiosity has anything to do with the fact that they are viewing Native Americans. It is the human skeletons themselves that attract those of the living. It perhaps reflects the realization or, better yet, the confirmation of what is eventually in store for all of us.

The 1938 season ended the last of August, and Karl Schmitt, "Kansas," and I headed home in the same old 1933 Plymouth that barely made it out here last year. We again drove west and south to Oklahoma, through the Quachita Mountains, into Texas, across Arkansas, and on northeast to Washington, D.C. The trip was uneventful, therefore enjoyable--not at all like 1937.

1939

Once again I pointed the hood of my rather tired 1933 Plymouth to the west. This time, besides "Kansas," I had the company of two good friends. One was my old friend Karl Schmitt and the other was Bruce Oswald (Oz), whom I knew as a fellow student at the University of Maryland. Oz had visited an archeological site in Virginia that Hugh Stabler and I were working on. He seemed to like grubbing in the dirt and relished a bit of adventure. With this I recommended him to Dr. Wedel as a likely addition to the 1939 field crew. I was never sorry.

This season we were to spend the summer in west-central Kansas. At that time this part of the state was still suffering from recurring dust storms and the resulting depopulation effects. Standing water in this part of the state or anywhere else in Kansas in 1939 was a rare sight indeed. We were in the era before farm ponds or dammed creeks and rivers were commonplace. Everything was dry, the land, the air, and especially the dust. As we neared Scott County Park, our destination, we felt at last we were seeing the West, but we couldn't help but feel a bit apprehensive at the thought of working out in this hot, dusty climate. We were considerably relieved, however, when we arrived at our camp and found it nestled down in a sheltered canyon beside a lake, formed by the impoundment of Beaver Creek. To further improve on this idyllic setting, our tents were set up in a grove of trees a stone's throw from the water. We were just getting settled in when the skies suddenly darkened, almost like night, the wind blew, the air became choked with dust, and scattered drops of mud began falling from the heavens. This was to be the first of many similar dust storms we were to experience. As we ran to our cars for cover, a car with its lights on came down the road and stopped at our camp. It was Henry Hornblower II, a Harvard student from Massachusetts and the last member of our crew. Now that we were all here, our 1939 crew (Figure 15) consisted of the following:

Dr. Waldo R. Wedel, Director
Marvin F. Kivett (Gus), Assistant to Dr. Wedel and cook
Karl Schmitt, Jr.
J. Mett Shippee
Henry Hornblower II
Bruce Oswald (Oz)
Richard G. Slattery (Gates)
Philip Drucker, volunteer for two weeks

I really don't recall who did the surveying. Perhaps it was Dr. Wedel that year.

The dust storm was a rude welcome for all of us, but it passed as quickly as it came, and the skies cleared to a bright blue again. There were only two houses in the park. One was the home of the local sheriff and his family, and the other was about ½ mile away and belonged to a man well into his 60s and his father. We used to visit with the son and listen to his account of homesteading in this canyon when he was a boy. He pointed out the place in the cliff that his family had enlarged for a shelter when they first arrived. He described how the floor of the canyon was so covered with buffalo bones that "you could walk from one end to the other without your feet ever touching the ground." He told us other stories that were stretched a bit, so I suspect this one was too. We didn't find out that his 90-year-old father was still living until we were about to leave the area. It seems that the old fellow was always out fishing when we were there.

Figure 15. Oz Oswald, Gates Slattery, Gus Kivett, Mett Shippee, Waldo Wedel, Karl Schmitt, Henry Hornblower at Young Burial site (14SC2), 1939. Photo by reporter.

Our first excavation project was "El Cuartelejo" (14SC1), which was the name of a pueblo erected in the late eighteenth century to shelter a Puebloan group that had fled the Spanish in the Rio Grande region. The site is marked by a monument, set at the southwest corner of the ruin, on which Cuartelejo is erroneously spelled with a "Q" (Wedel:1959). The area inside this stone foundation had been previously explored as long ago as the late nineteenth century. I was surprised to learn that A. T. Hill had done some work here years ago. It was our plan to explore the areas adjacent to the pueblo structure that might yield sufficient artifacts to further identify the occupants of this structure. To locate specific areas of cultural bearing materials we shovel tested and trenched with varying results (Figure 16). We did locate and excavate a number of cache or roasting pits and several large midden areas. The latter contained most of the numerous artifacts recovered.

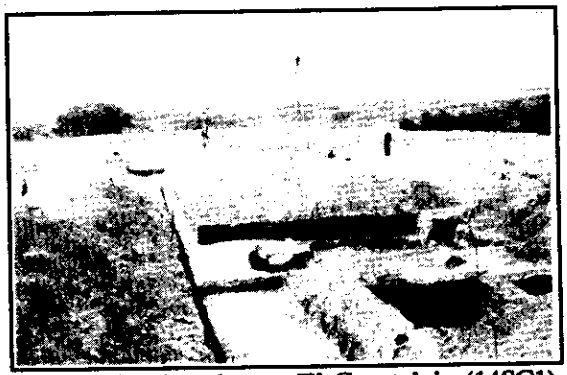

Figure 16. Trenches at El Cuartelejo (14SC1), 1939. Photo by Gus Kivett.

Figure 17. Mett Shippee and author caught in a dust storm, 1939.

One Sunday Mett and I went exploring west and south of Scott City to see what we could find surface collecting in some of the dust "blow outs" that were scattered all over this end of the state (Figure 17). Blowing dust acted much like snow does when it drifts. Unlike the latter, however, blowing dust doesn't stop at the ground surface; it just keeps eating away at the soil until there is a large area where a foot or two of dirt has been removed, leaving all more dense objects lying bare on the hard pan. It was not unusual to find an Archaic point lying next to a historic lead bullet. Everything would be out of context stratigraphically, and all the time you would be in a sand storm, but the excitement was there. On the way back to camp we stopped at Shallow Water, Kansas, which looked half

buried in the dust. We talked to an elderly gentlemen there, who lamented the fact that most of the townspeople had left. He pointed to a nice 2-story brick schoolhouse and told us that only 12 of the students were still there. And the worst part of it is, he continued, "Water is only 10 feet away, 10 feet, straight down!"

On an elevated knob of the canyon wall some 1½ miles northwest of our campground was the Young Burial site (14SC2) (Figure 18). This rather inconspicuous high point had been the subject of some local interest a few years back when the park road was graded and one or two burials were removed. With this in mind and the thought that the burial ground for the pueblo might be here, we began excavations in this area. Five burials, some disarticulated and others flexed, were excavated from the dry, sandy soil. It was determined that these interments were not associated with the habitation of the pueblo but in fact represented an entirely different group, pre-dating the pueblo by many centuries. As this conclusion became evident, we fanned out to shovel test all surrounding areas that might prove to be likely locations for the village of these people, all with no success.

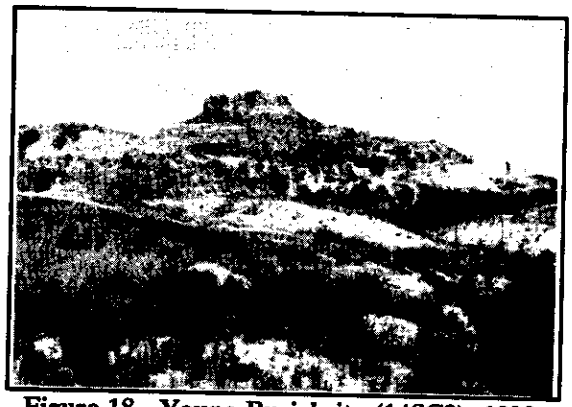

Figure 18. Young Burial site (14SC2), 1939.

During the trenching operations at the Young Burial site, one of our crew met with a painful situation. Henry Hornblower tended to rest frequently, and one day while he was excavating in a trench, he decided to sit down if only for a few minutes. Well, he sat down all right, right on top of a large clump of prickly pear cactus. He tried to rise quickly without putting his hands down and fell back into the cactus for the second time. The result was that Gus had to take Henry back to camp and go to work with a pair of tweezers. It was a couple of hours before they returned to work.

One day, or perhaps it was for two days, we had a visit from Carlyle Smith and George Metcalf (Smith 1992). I recall the weekend clearly as that was my first meeting with George. I never saw Carlyle again, but after George took the job at the Smithsonian, we saw a lot of each other and became good friends. I was always tremendously impressed with his knowledge of the historic Plains Indian cultures. I always considered George to be one of the most well read individuals I have ever met.

Toward the end of our one-month stay at this site, Dr. Wedel invited all of us to a steak dinner at a restaurant in Scott City. It must have been a Sunday because we had the day off. That morning Karl, Oz, and I decided to go exploring again. We made a couple of sandwiches and drove north, stopping here and there. Sometime after lunch we were following a dirt trail across the prairie, when we saw a lone tree about a third of a mile away. That was the only tree anywhere on the horizon, so we thought there must be a spring there; and where there is water, there are likely to be Indian artifacts. We continued to follow the trail until we came to the bank of a dry river bed. According to our map, this was the Smoky Hill River. The tree was still on the other side, and the wheel tracks we were following went right across the river bed. We, therefore, felt that it must be okay to cross since someone else had made it. At this point we had not discovered that it was a horse and wagon that had made the tracks. I cautiously eased the car down the bank and started across the river bottom. I had gone no more than 100 feet before I realized that I had made a mistake, a bad mistake. The wheels started to sink into the sand, so I stopped and reversed and dug in deeper. It was at this point that we first noticed that a very black cloud had gathered in the west (upstream!). We were almost at the point of panic when we noticed an abandoned ranch house across the river. It was at least ¼ mile away, but we made a beeline for it. Once there we searched the place for something to help us get the car out of that river bed and fast! We saw that the outhouse was covered with corrugated steel sheets about 8 feet

long. We immediately ripped two of these sheets off and started back to the car. Well, trying to carry an 8-foot metal sheet in a high wind was a new experience for all of us. I had a sheet all to myself and felt as if I was at the center of a windmill. From that point on it was jack the right side of the car up, slide the metal sheet under, do the same for the left, reverse the car, then repeat the same procedure over and over again and again, all the time watching the cloud get blacker and closer by the minute. I don't know how long we were at it, but it must have been close to 5:00 p.m. when our rear wheels finally hit solid ground. Five o'clock was when we were to meet in Scott City for that steak dinner. It was then a race to Scott City. Just as we pulled into the front of the restaurant, the storm broke loose. Dr. Wedel and the rest of the crew had already ordered, but we weren't too late to enjoy the treat. While we ate, the storm raged outside, lightning, thunder, and lots of hail. After it was over, we ventured out. I discovered that the inside of my car was wet from 48 hail punctures in my roof (1933 Plymouths did not have steel tops). The next day we drove over to the Smoky Hill River and found it bank full! While I applied red inner tube patch to the roof of my car, I thanked the powers above that I still had a car.

Our next camp was on the Pottorff Ranch about 6 to 8 miles north of Healy, Lane County, Kansas, and about 20 miles east of Scott County Park. None of use were too happy about leaving our camp beside Beaver Creek Lake, but on seeing our new location, we had no regrets. We set up our tents in the shady little valley of Salt Creek at a spot beside a free flowing spring and next to a protecting 15-foot rock ledge. By this time Mett had built us a screened-in dining area that was appreciated by all (Figure 19). We didn't have the lake to bathe in, but we did have a choice of the creek or the small tub (Figure 20). Then on days off we could always drive over to Beaver Creek Lake.

Archeologically we were in a very interesting spot. With the year-round spring and a fine flow of water in Salt Creek and perhaps timber, this little area could have been very attractive to animals and man alike. It was especially interesting to the point of annoyance to step on buffalo bones with your bare feet while trying to

Figure 19. Gus Kivett, Oz Oswald, and Mett Shippee washing dishes at Salt Creek camp, Lane County, Kansas, 1939.

Figure 20. Gus Kivett bathing in tub at Salt Creek camp, Lane County, Kansas, 1939.

wash off in Salt Creek right in camp. In the many years that have passed, I have often wondered if the 15-foot cliff behind our tents had not at one time provided an opportune spot for a buffalo jump and just perhaps our tents were pitched on top of a stratified buffalo kill site. This is just speculation as we never tested here. We did extensively test several areas just downstream from our camp, all with positive results. Two small earthlodges were found, one overlapping the other. Several deep tests yielded early pottery types. At the bottom of one 5- to 6-foot deep trench, I recall encountering fine, secondary chert flakes and ashes in a thin horizon. No indication of pottery was present.

In our tents we were mildly bothered with mosquitoes, and some of us removed our canvas cots to the prairie above the cliff. Here miles away from any lights, the sky was so clear it

seemed that you could just reach up and pick yourself a star. There was always a breeze up there, and any mosquito that tried to stop for a bite was disappointed.

Up until now I haven't mentioned jackrabbits. We had them by the thousands. They were everywhere. When driving into town, you couldn't help but run over several on each trip. One night Oz, Karl, and I were returning from town, and as we approached camp, there were several of them right in front of the car. I slowed to a stop as a couple of them were right close to the left front wheel. I quietly got out of the car and reached out behind the headlight and grabbed a young one. We all agreed that the place for it was in Gus' sleeping bag. With Gus asleep we tossed it in. As the rabbit jumped around, Gus calmly caught it by the ears and dropped it out. This was so predictable. I don't know why we expected anything more. We used to go hunting them with a rifle. It was really tough to hit one when they got up to full speed. When we were driving slowly, "Kansas" would jump right out of the car window and chase one for at least ½ mile, while we waited for him to return with his tongue hanging down to his knees.

One afternoon after work, Oz and I walked out on the unfenced prairie to hunt jackrabbits (Figure 21). We must have been a couple of miles from camp when "Kansas" spotted a herd of semi-wild steers. He made a beeline for them and began rounding them up just as his genes told him to. The more he circled them, the madder they got. I began hollering at him to call him off, and always obedient, he began running toward me. To my horror all 50 angry steers were galloping behind him. Oz and I desperately looked for a place of safety. We couldn't run away from the dog, he would always follow us. We finally spotted a rise with a few rocks around it and made a mad dash for that. Fortunately that was enough to deter the herd, so they milled around, making lots of noise, then ambled off.

My last word on jackrabbits is about the practice of "rabbit drives" that were gaining popularity on the Great Plains during the time we were there. The object was to reduce the number of jackrabbits, which were accused of

Figure 21. Oz Oswald with jackrabbit near Salt Creek camp, Lane County, Kansas, 1939.

eating the scarce grass that was so necessary for the reduced number of cattle that were still trying to survive this prolonged drought. It was so bad that the cattle were reduced to forging on prickly pear cactus. Some of the ranchers were burning off the spines with blow torches to make it easier for them. The way these rabbit drives worked was that a call went out for people to join the drive. The organizers got as many people as possible to join in a large circle, several hundred men, women, and young adults would each bring a club and join in the circle. The circle would then begin to close in. As the rabbits ran to the outer limits of the circle the participants would club them as they tried to escape the trap. At the end of the drive, there would be several hundred rabbits and one or two coyotes killed in the melee. I was told that the rabbits were gathered up and trucked to a glove factory in Dodge City, and I believe the meat may have gone to a dog food processing plant. I always thought the practice was cruel--something that would never be permitted today, but that was in 1939.

One late afternoon after work, Oz and I were again out on the prairie some distance

from camp when we noticed that the ever present wind had slacked off. This was unusual but certainly of no concern to us at the time. A bit later we were shocked to observe a black cloud rolling along the ground and extending several hundred feet upwards. It was across the horizon and heading fast right for us. Still no breeze, but we could tell there was a strong wind behind it. We ran back to the camp and began to tighten our tent ropes when the dust hit us. The sky turned dark as night, and breathing was difficult. We all went for shelter in our cars with the windows closed. There was a slot in the floorboards where the emergency brake came through, and that let the dust in to fill the car. Soon the dust and the heat drove Oz and me out into the open with handkerchiefs over our mouths and noses. After it was over, we marveled how those people who lived here could survive years of such storms. Hats off to those hearty survivors!

I arranged for Hugh Stabler to come out and spend the last week with us, then Hugh, Oz, and I would take a trip farther west. The last day or so of the field season, we began packing the old Plymouth. With three of us and all our luggage plus a dog, we could clearly see that it was going to be a tight squeeze. We then began looking for things we could leave behind. I made a decision that I really didn't need the fossil mandible I had excavated from a fossil bearing layer of a badlands called "Hell's Bar." This place is located north of Healy in Gove County, Kansas, and is a deeply eroded landscape covering hundreds of acres south of the Smoky Hill River. Mett and I visited the area several times, and each of us came away with interesting fossils (Figure 22). The mandible I found was from a very heavy jawed creature and measured about 11 inches in length and 2½ inches wide. I seem to recall that the teeth were different from modern animals. I have always regretted my decision to bury the specimen along with the tin cans when we cleaned up our camp site. The next morning after breakfast, the three of us said our goodbyes and drove out of camp with Gus' words, "You'll never get to Leoti," ringing in our ears. A week later we sent him a postcard from Los Angeles, but that is another story.

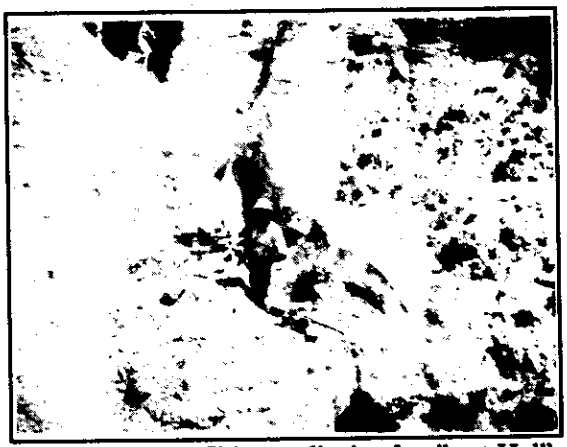

Figure 22. Mett Shippee digging fossils at Hell's Bar, Gove County, Kansas, 1939.

1940

This year Dr. Wedel asked me if I knew of anyone who would like to do the cooking on this summer's field trip to Kansas. I thought of still another friend of mine who was a pre-med student at George Washington University and had also helped Hugh Stabler and me excavate at the archeological site in Virginia. I had no idea if he could cook or if he would want the job if he could. I asked him just in case and told him the pay would be $45.00 a month with food and tent, and John Giles jumped at it. So, on the morning of June 1, 1940, John, "Kansas," and I left Washington, D.C., once again for Kansas. This time there was one difference. We were in a different car. The previous September, when Hugh, Oz, and I returned from touring the west and southwest, my 1933 Plymouth had 96,000 miles on it and was suffering from numerous ailments. I had answered an ad in the paper and located one of those legendary bargains a person seldom experiences and only dreams about. An elderly lady had a 1933 Plymouth, which she had only driven 23,000 miles, and was asking $125.00 for it. Oz wanted to buy my old 1933 Plymouth to fix up for the price of $50.00. I closed the deals and had what I considered to be a nearly new car for a mere $75.00. The only difference between the two cars besides the wear and tear was the wheels. My first Plymouth was an early model '33 with wooden spokes, and this '33 had wire wheels.

Our destination this year was northern Rice County, Kansas, along the Little Arkansas River north of the town of Lyons and south of Geneseo. John and I reached the camp in two days without incident. Dr. Wedel had married Mildred Mott during the year, and she became a welcomed addition to our small crew, which consisted of the following:
Dr. Waldo R. Wedel, Director
Mildred Mott Wedel
Marvin F. Kivett (Gus), Assistant to Dr. Wedel
J. Mett Shippee
Richard G. Slattery (Gates)
John Giles, cook

Our mission this year was to investigate certain archeological sites along the Little Arkansas River in the area noted above. We hoped to recover physical evidence that Spanish incursions into the Great Plains did in fact reach this area of Kansas and that this land could creditably be the Spanish "Quivira."

As we found in so many cases, local collectors provided us with valuable information, which led us to first test the Tobias site (14RC8) and later extend our investigations across the river to the Thompson site (14RC9). The Tobias site was impressive for it occupied land that had never been plowed. Since 1940 was still in the climatic dry cycle that involved most of the Great Plains, the grazing land was generally burnt to a light tan color. Any low spots that could gather and retain a bit of moisture appeared slightly but noticeably greener. This phenomenon was a great boon to the archeologist. When checking the surface of the virgin sod, it was easy to see the depression of every cache pit and any other soil disturbances that might create a depression. Since excavating one cache pit may be as good as excavating any other, sometimes we were known to pick the size of a pit we felt like spending the next two or three days in. If we felt tired, it was easy to select a smaller pit. In any event all of us were hoping to find that piece of physical evidence that would prove that the Spanish were here. As days turned into weeks and several weeks had passed and no one had yet found any trade goods, we all were getting a bit anxious, including Horace Jones. Horace was a newspaper man and historian of Lyons who was enthusiastically supporting a quadricentennial recognition of Coronado's expedition into central Kansas in 1541. Well, the long hoped for evidence was finally recovered by Mett in Pit #4 at the Thompson site. This was a large, bell-shaped storage pit, 48 inches diameter at the top and 80 inches across at the bottom, which lay at a depth of 78 inches. It was near the bottom of the pit that Mett found the rusted blob of chain mail. When Horace Jones got word of this discovery, he was out to the site in a flash with a case of cold beer.

The discovery of this much sought after piece of evidence buoyed our spirits considerably as we tackled Basin #1 of Mound 17 at the Tobias site. It was here that Mett unearthed a necklace composed of glass trade beads, bone, and turquoise (Figures 23 and 24), linking the

Figure 23. Mett Shippee excavating beads in Basin #1 at the Tobias site (14RC8), 1940.

Figure 24. Necklace in situ in Basin #1 at the Tobias site (14RC8), 1940.

Spanish and the Southwest together with this archeological feature. Basin #1 measured 30 feet long by 12 feet wide by 3 feet deep. This large feature was only exceeded by Basin #2, which was 58 feet long and approximately the same other dimensions as Basin #1. This latter basin contained more evidence of the Spanish presence in such items as an iron axe head, iron awl, and other bits and pieces of iron. The basin also contained a catlinite pipe, a charred basket (Figure 25), restorable pots, and great quantities of charred corn, among many lithic artifacts.

Figure 25. Charred basket in situ in Basin #2 at the Tobias site (14RC8), 1940.

The excavations at both the Tobias and Thompson sites yielded occasional potsherds of a type representing Southwest cultural origins. These specimens were sent to the University of New Mexico where they were correlated with tree-ring-dated pottery types and were found to bracket the period of A.D. 1541. All of this made for a very exciting dig, one that without doubt stood out above all the other excavations we made in the four summers that I was a member of the crew.

One of the weekends (Saturday afternoon and Sunday) Mett, John Giles, and I drove out to the Colorado line just south of Wyoming to visit Dr. Frank H. H. Roberts at the Lindenmeier site. This was a long haul from central Kansas, but it was worth every mile of the trip. We not only had a tour of the excavations but were shown all of the finds that Dr. Roberts had made so far that summer. One artifact that Roberts showed us as "his most important find of the season" remains a puzzle to this day. It was a large vertebrae of *Bison antiquus*, as it was described to us, and imbedded into it was presumably a Folsom point. The base had been snapped off, but there was sufficient length of the mid-section of the point protruding from the bone to recognize the fluting. Several years later I visited George Metcalf at the U. S. National Museum when he was accessioning Dr. Roberts' material from the Lindenmeier site. As we examined the lithic artifacts, I asked George if he had run across the vertebrae somewhere in the collection, and he stated that he had not seen it. I have checked Wormington's (1959) treatment of the Lindenmeier site in her 4th edition of *Ancient Man in North America* and could find no mention of this artifact.

One note on the life and times of the central Kansas area was the mid-summer wheat harvest in those pre-World War II days. We observed the threshing crews working. Giant steam-driven tractors provided power to the threshing machines, which were spitting out their chaff into huge piles that rose 20 feet or more to dwarf those who worked beside them. On one or two occasions, while we were driving at night, we observed groups of people rallying around the biggest bonfire we had ever seen. It was one of these big piles of chaff that had been torched. Whenever this happened, you could see the sky light up from miles away.

We didn't have portable radios at that time, but we did have car radios that we could use for a very limited period before the car battery would run down. Dr. Wedel frequently would turn on his car radio to listen to 15 minutes of news. There was one news flash that I particularly recall--when Hitler marched into Paris. This was the very first time that I had taken the European war seriously. At that moment I realized that this sort of carefree existence was over and this would be the last summer in the field. At that moment one could not think beyond the impending crisis.

Sometime after the first of August, we broke camp and moved southeast to Cowley County, Kansas, to investigate sites along the Walnut River some 10 miles north of its juncture with the Arkansas River. We arrived too late in the afternoon to set up camp, so we slept on straw

bales in someone's barn (Figure 26). Permission was granted of course. The next day we established our camp in a pecan grove (Figure 27). I believe that these trees were planted many years ago for they were very tall and quite large in the trunk. That was okay, but they all had large dead limbs that hung menacingly far above our tents. Whenever the wind blew a bit strong at night, it was a little worrisome.

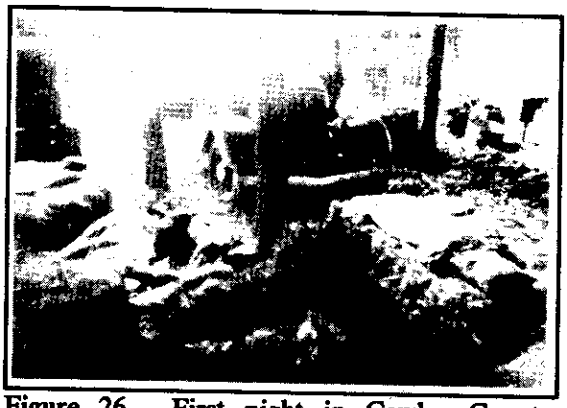

Figure 26. First night in Cowley County, Kansas, 1940.

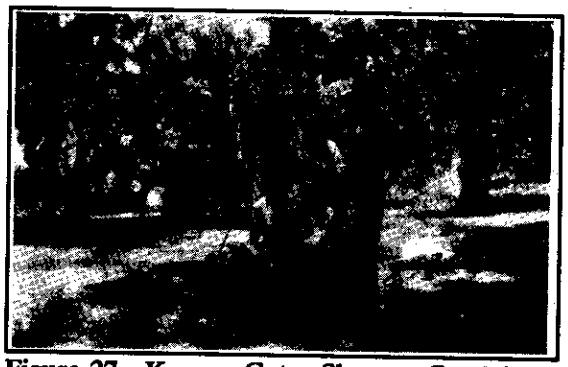

Figure 27. Kansas, Gates Slattery, Gus Kivett, John Giles, and Louis Essex at Cowley County camp, 1940. Waldo Wedel is standing by the car in the background. Photo by Mett Shippee.

Recently, while looking for some lost papers, I ran across an old letter that I had written home right after arriving at Arkansas City. It is dated August 8, 1940. I believe that a portion of this letter describes our leaving the Tobias site in Rice County and our arrival in Cowley County much better than I can now after the passage of 55 years.

> Today it is raining, our second rain this summer and we are all in camp. Doc says we are going to catalogue pretty soon so I don't imagine I will be able to write much this time. We arrived at Arkansas City Saturday night. We worked like Trojans before we left Geneseo. We filled in for a day and a half with a team and scoop. The second day we worked 12 hours, 7:00 a.m. till 7:00 p.m. We were about dead tired when we finished because filling in is about twice as hard as digging. Saturday morning we broke camp, packed everything and loaded it in a truck. We left Geneseo at 1:00 p.m. and arrived in Arkansas City at 9:30 p.m. We had to sleep in a barn because the truck broke down and didn't arrive until dawn. Just in time to wake us up at 4:30 a.m. All day Sunday we set up our new camp, cut weeds and put up our tents. Sunday night we went to bed early.

Since our arrival in the vicinity of Arkansas City and Walnut River was late in the season, our explorations were limited to three sites along the latter river. They were the Arkansas Country Club site (14CO3), Elliot site (14CO2), and the Larcom-Haggard site (14CO1).

By far the Arkansas Country Club site was the most productive, perhaps in part due to the size of the aboriginal settlement and the existence of surface features in the form of low mounds. Due to the presence of this site on the grounds of a golf course, our choice of features to examine were limited to areas where damage to the golfing activities would be minimal. Therefore, one of the smaller mounds was made available. This mound contained three cache pits within or adjacent to the mound structure from which were exhumed at least three restorable pottery vessels (Figure 28), other artifacts common to village refuge, and a few scattered human bones. It was determined that this mound had not been disturbed and that the presence of a small number of disarticulated, unrelated human bones did not represent a purposeful burial mound. Consideration that this feature could have been nothing more than a raised midden was a distinct possibility. The other two sites were investigated in a more limited manner due to availability and the absence of surface structures that would indicate important habitation areas. Nevertheless, several

cache pits were located on each of the sites, and restorable pottery vessels were recovered.

Figure 28. Mett Shippee with restored pots at Cowley County camp, 1940. Photo by Gus Kivett.

We were always paid at the end of the month, and it was at the end of June or at the end of July that I stuck my $45.00 in the pocket of my jeans and drove into Arkansas City. On the outskirts of the town, I stopped at a watermelon stand and bought a nice melon to take back to camp. I pocketed the remaining $44.00 plus change and drove the rest of the way into town, stopping once again. It was then that I discovered that my $44.00 was gone! My whole month's wages gone! I backtracked all the way to the watermelon stand to no avail. I then went to the newspaper office to place an ad. Instead on August 15, 1940, the *Arkansas City Tribune* carried a front-page article headed, "Museum worker loses $44.00 bank roll," and called for information or return. A day later word was sent to me from town that a certain person was seen picking up bills from the street. I looked him up, and he said, "Yes, I did pick up four ones." "What about the tens?" I asked. "Never saw anything but the ones," he answered, handing me the $4.00. At dinner that evening I felt so bad that, for the first time, I couldn't eat John's cooking. Later that evening, in private, Dr. Wedel slipped me a $10.00 bill--a kindness I never forgot.

On the 26th of August we broke camp and headed home once again, each our separate ways except for John Giles and me who returned in my now trusty 1933 Plymouth #2.

Acknowledgments. I am deeply indebted to Dr. Waldo R. Wedel for granting me the opportunity to work under his direction during those four summers, covering three months each. It was this educational experience that prepared me to follow a lifetime of serious archeological pursuits. For this I will remain always grateful.

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KANSA PRESENCE IN THE UPPER KANSAS VALLEY, 1848-1867

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Although an 1846 treaty removed the Kansa tribe from the upper Kansas valley to a new reservation in the Neosho valley, anecdotes from 1855 to 1867 recount the hunting activities of a small band of Kansa Indians, probably led by one Shingawassa in the upper Kansas valley. Cooperative trade relations with United States citizens and successful Kansa involvement in the U.S. military during the Civil War era in this region culminated with the last of many conflicts with Plains tribes (principally Kiowas, Comanches, and Cheyennes), finally driving the Kansa back to the Neosho valley by 1867. The article begins with a suggested analysis of an 1848-1849 map of the upper Kansas valley, charted with the assistance of Kansa Indians.

The January 14, 1846, United States treaty with the Kansa Indians obliged them to move from their 2-million-acre reserve on the Kansas River to their new reserve, a tract not officially recognized and located until July 1847. It might be supposed that thenceforth the Kaws would have remained strictly within the bounds of this tract of land, 20 by 20 miles and straddling the Santa Fe Trail well within the Neosho River drainage (Barry 1972:569, 689), but it appears that a band of Kaws maintained a presence in and utilization of the upper Kansas River valley from 1855 (and possibly from 1848) into 1867. The nature of that presence and the cause of its cessation are the subjects of this paper.

A brief review of Kansa territoriality in the nineteenth century is in order here. In the first two decades of that century, the core cultural domain of the Kansa seems to have been the Kansas River valley from the Blue Earth (Big Blue) River to the Missouri, extending south to the Neosho River and northeast to the upper Grand River in present southwest Iowa (Figure 1). The hunting territory adjacent to the core domain was primarily the basin drained by the Solomon and Smoky Hill rivers, extending south to the Great Bend of the Arkansas River and north to the domain of the Pawnees on the Republican River (Unrau 1986:98; compare also Thies 1988 and Molloy 1993 for contemporary archeological interpretations of 1820s and 1830s Kansa habitation sites in the upper Kansas valley). Several provisions of the 1825 treaty, relocating them to a tract of 2 million acres on the Kansas River (Figure 2), were also meant to encourage agriculture and stock raising at their Blue Earth village, while still permitting the seasonal buffalo hunts that replenished their winter subsistence stores (Barry 1972:119-121). The 1846 and 1847 developments removed Kansa villages from traffic along the Oregon Trail and placed them, one might have supposed, some distance from the anticipated American farming frontier. Unfortunately their relocation to a site on the Kansas City-Santa Fe merchants' road was compromised by the encroachments of settlers' claims at Council Grove, the machinations of the tribe's own Indian Agent, and the powerful litigious greed of the Union Pacific Railway, Eastern Division. Crop failures, diseases, and the despair of alcoholism and poverty further crippled the tribe's will to exist. In retrospect the 1872-1873 removal to Indian Territory, seen within the pattern of the 1850s through 1870s removal policy, seems to have been inevitable (Unrau 1986:164-214; Unrau and Miner 1978).

A KANSA MAP OF THE CENTRAL KANSAS VALLEY

A gathering of brief items from 1848 to 1867 throws light on the hunting and trading economy practiced by the Kaws in the Kansas valley during those years. The first such document (Figure 3), a "Map of Kansas River," sketched by missionary Johnston Lykins in 1849 from information produced by Kansa and Potawatomi Indians, yields Siouan-looking (probably Kansa)

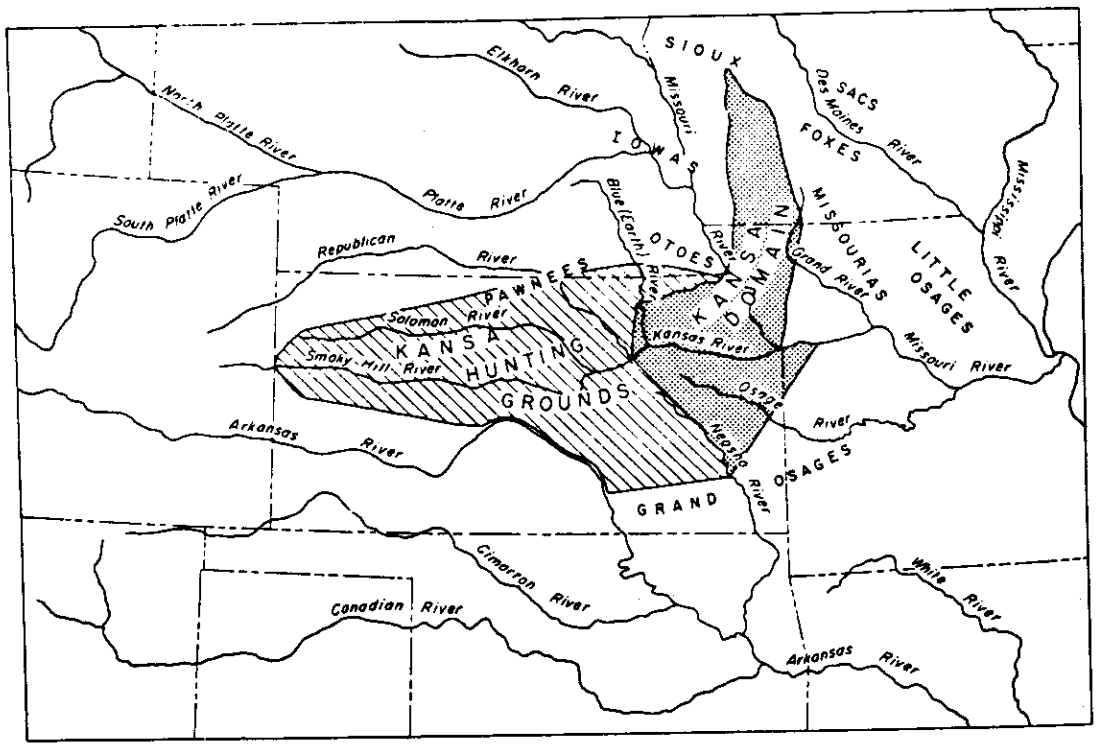

Figure 1. The Kansa domain, 1816-1818 (Unrau 1986:98), based on the notes of Auguste Chouteau and George C. Sibley. Most of the named tributaries of the Kansas River, as shown in Figure 3, lie within the area depicted here as the Kansa hunting grounds.

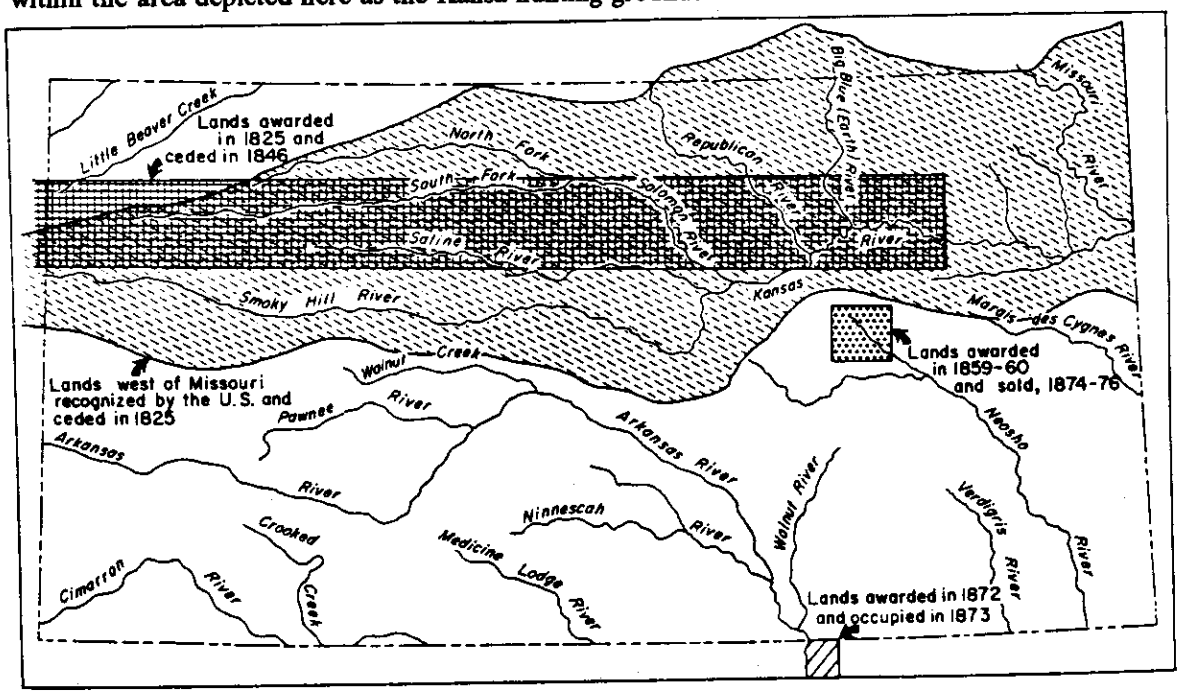

Figure 2. Kansa lands in Kansas (Unrau 1986:108). From 1848 into the early 1870s, the majority of Kansa people were living on the small Neosho River valley reserve surrounding Council Grove.

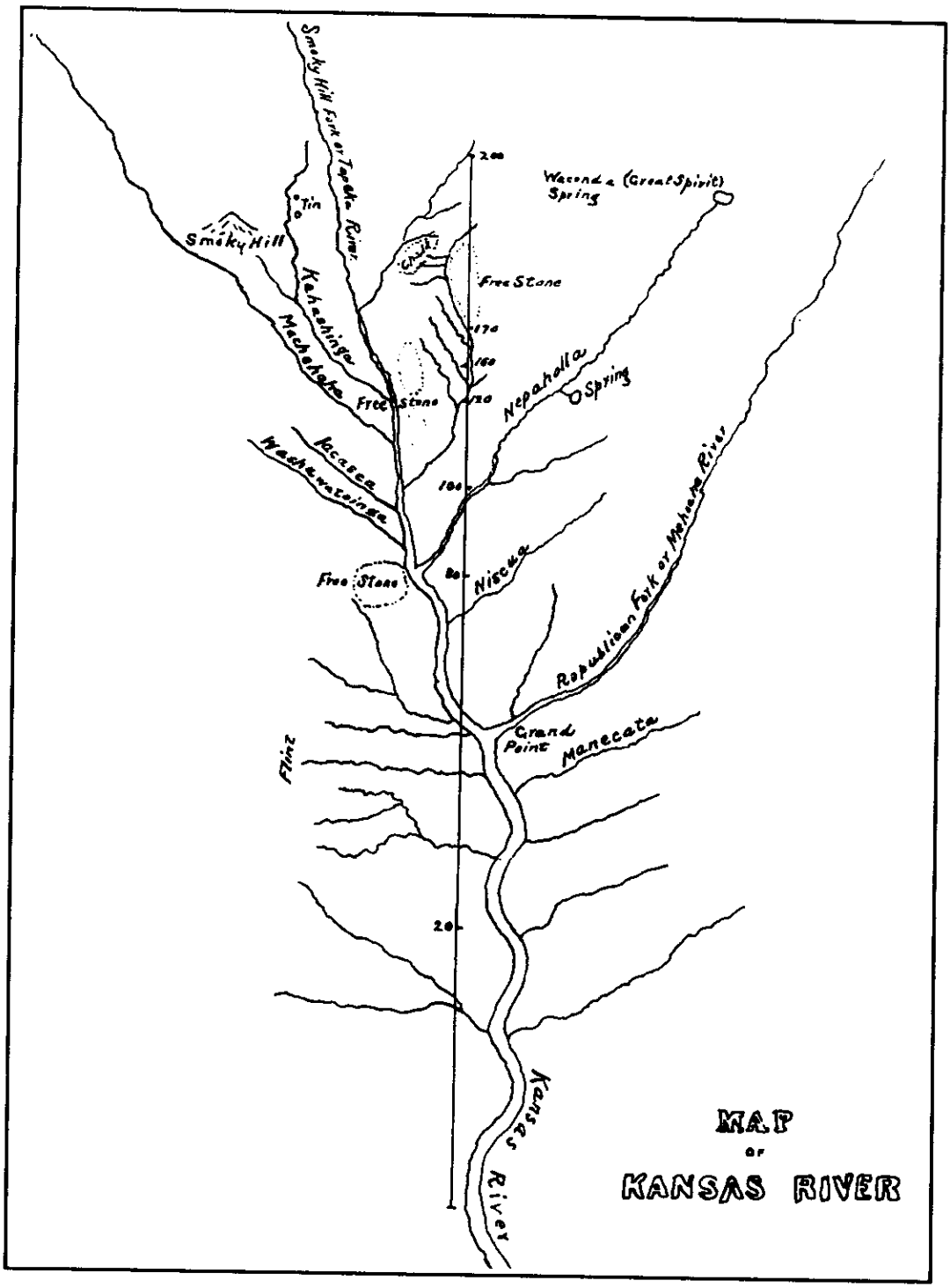

Figure 3. This map of the Kansas River (from Schoolcraft 1853:facing 159) has east at the bottom of the map, instead of having south at the bottom as is customary. It was drawn by missionary Johnston Lykins in 1849 while he was living at the Potawatomi Baptist Mission in what is now central Shawnee County. Lykins had intended to depict a location where tin could easily be mined, but, almost as an unintentional side benefit, he produced a map of the upper Kansas River valley as his informants--Kansa Indians--understood it.

names for nine tributaries of the upper Kansas River, as well as locations for flint, chalk, and free stone (Schoolcraft 1853:157-159; mentioned in Connelley 1928:591). A two-tiered inquiry into this map produces results useful for this study. The first tier identifies features on the map; the second tier asks why the map is thus delimited.

Rivers

The *Nepaholla* is clearly the Solomon River. The "Republican Fork or *Mehoche* River" is self-identified, implying that the *Manecata* is today's Big Blue, thus generating implications for the naming of Manhattan, Kansas. The *Nisoua* is Chapman Creek. Since the latitudinal declination of "Smoky Hill Fork or Topeka River" aligns with the Kansas River, this "Smoky Hill Fork" is likely today's Saline River. The *Machehaha*, with (1) its southwestern declination away from the mouth of the Republican and (2) its length, as compared to nearby tributaries, is today's Smoky Hill. The *Kahashinga* is Mulberry Creek. The *Iacasca* may be Gypsum Creek. The *Tashuwatoinga*, depicted (perhaps erroneously) as entering the main trunk upstream rather than downstream from the mouth of the Solomon, is either Holland Creek or Turkey Creek in Dickinson County. The stream, which has its headwaters in "flint" and leads almost directly into the Kansas River from the south between the mouths of the Republican and the *Manecata* (Big Blue), is probably Humboldt Creek. No attempt is made here to translate these names. Other interpretations of this map are certainly possible.

Lykins (1854) later translated other regional Kansa river names not shown on this map. Neosho was translated as "clear or pure" and Shunganunga as "running horse," while the Wakarusa, pronounced as "Wa-ha-roo-sa," is "the name of a plant (*Asclepia Incarnata*), which grows abundantly on the low lands along that stream, and which is gathered in the early spring by the Indians and eaten as 'greens'" ([Lykins] 1859). *Asclepias incarnata* is the swamp milkweed.

For this interpretation of "Wakarusa," compare Omaha-Ponca *wahtha* and Dakota-Lakota *waxca-xca*, meaning "flower blossom," cognates of *Asclepias syriaca*, the common milkweed (Kindscher 1987:55), and Kansa *luse*, meaning "pull off, pick corn off the stalk" (Rankin 1987:85). (Cognate means having a common parent language or having in common the same original word or root.) It is possible that the Omaha-Ponca, Dakota-Lakota, and Kansa words cited here have a common proto-Siouan origin. Compare also the following possible cognates from Iowa-Otoe-Missouria, three slightly distinct Mississippi River Siouan languages: *waxgú* or *waxkú*, meaning "fruit" in Iowa; *wathgú* or *wathkú*, meaning "fruit" in Otoe; *wathgú* or *wasgú*, meaning "he shells off corn" in Iowa-Otoe-Missouria (Good Tracks 1992:86-87). Compare also Fr. de Smet's May 1840 observation that "especially noticeable [in the lower Kansas valley] was the *Waggére-roussé, ou la fleur du cotonnier*, a plant which is abundant in this region, and on which the Indians feed. It is found along a river that bears the same name, and which flows into the Kansas" (Chittenden and Richardson 1905:201-202). Furthermore, the Oregon-based missionary William H. Gray recorded in April 1838 that "WaKorusah" was so called "from a root found in abundance on its [the Kaw's] banks made use of for food by the Natives" (Morgan and Harris 1987:74). Kindscher (1987:55) notes that the common milkweed is also known as the silkweed, Virginia silk, and wild cotton. The Wakarusa is likely the easternmost southern tributary of the Kansas River depicted on the map, but it is not named as such by Lykins or his informants.

Two further Kansa names of streams possibly depicted on this map are provided elsewhere, though with uncertain phonemic accuracy. (A phoneme is the smallest unit of speech in any given language distinguishing one word from another. In other words it is unclear how these names might be spelled by contemporary Siouan scholars.) In traveling to the Kansa Methodist Mission, the Reverend James M. Jameson on May 13, 1841, recorded that the Kansa village of a leader named *E-ya-no-sa* was located "in the fork, between the Kansas and the *Wa-nun-ja-hu*," interpreted by Barry (1972:427-428) as present Mill Creek in Wabaunsee County. A second reference, in three parts, must be spelled out with some care. (1) On March 1, 1860, a resident of Salina, Kansas Territory, wrote that New Mexican traders travelled on roads

extending "from Topeka . . . by the head of Mission Creek, across Clarks, Lyons, Wainscott, and Gypsum Creeks" and further stated that "Clark's Creek is well settled, also Lyons and Wainscott" (*Kansas State Record* [*KSR*], 10 March 1860). (2) About a month later another writer, in discussing the Territorial Road from Lawrence to Salina, declared that "the best way is through Big Springs, thence to Auburn, thence west on said road, keeping north of the main branch of the Wakarusa. This road follows what is known as the old Mormon road for 26 miles. It leaves that road at the bend known as Mormon Grove, at the extreme end of Mill Creek . . . . Thence almost due west across Clark's Creek, Lyons Creek, Wansquox, Hollands, and Gypsum Creeks, these streams being from 4 to 10 miles apart" (*Lawrence Republican* [*LR*], 5 April 1860). (3) William Phillips, possibly the author of the preceding two accounts, in recounting recent events in the vicinity of Salina told of a man named Dunn, "living on Wansyck creek, twenty miles east of [Salina]" (*LR*, 20 September 1860). The creek, located 20 miles east of Salina between Lyon and Holland creeks, is today named Turkey Creek. Rankin (1987:125-126) gives *si'kka* as the term for wild turkey or chicken, leading to the interpretation that Wainscott, Wansquox, and Wansyck are all attempts at recording the Kansa name of the stream, a name composed of the prefix *wan-* or *wa-* (with a nasalized vowel, characteristic of Kansa), seen in Jameson's account, added to *si'kka* or turkey. Curiously, the one-time town of Holliday on the border of Johnson and Wyandotte counties, once known as Waseca, is in the drainage of a Turkey Creek.

Smoky Hill

A further task within this first tier of inquiry is to fix the location and identity of other geological features on Lykins' map. The "Smoky Hill" between the *Kahashinga* (Mulberry Creek) and the *Machehaha* (Smoky Hill River) is possibly identical with the "Iron Mound of Salina (so named from being covered with iron ore) [which] is plainly visible for a distance of thirty miles," according to an 1858 traveler (*LR*, 16 December 1858). Or it may be one mound of "what is known as the Smoky Hill Buttes, or more familiarly as the Three Buttes," located in the center of the great bend of the Smoky Hill River by one J. R. F. (*KSR*, 14 July 1860; compare also *LR*, 5 April 1860). Documentation of the river's name in 1797 as "Fork of the Hill Buckaneuse" and in 1806 as "*La Fourche de la Cote Buckanieuse*," uses the word *cote* or hill in the singular, which more properly yields a translation of the name as "Fork of the Smoking Hill," rather than "Smoky Hill" (Diller 1955). The 1858 source claims believably that the Iron Mound was used as a landmark by Indian guides to the area, though the tribe of these guides was not mentioned (*LR*, 16 December 1858). Altogether these sources indicate a continuous association between a specific landmark hill and a specific river from 1797 into the 1860s. There is no conclusive proof, but it is likely that this association was held by the Kansa people familiar with and residing within this region throughout that time period. In all likelihood this particular "Smoky Hill" or "Smoky Hill Butte" or "Iron Mound of Salina" is none other than Coronado Heights, the great hill several miles north of Lindsborg, Kansas.

Tin

Lykins labored at the Potawatomi Baptist Mission in present central Shawnee County--now the site of the Kansas Museum of History--from March 1848 into 1851 (Barry 1972:741, 889-890, 1058). In three 1848-1849 letters to Henry Schoolcraft (1853:157-159) on "Tin in the Kansas Valley," Lykins commented as follows.

> Permit me herewith to enclose you a specimen of American Tin found in this region of country; . . . I have had some knowledge of the existence of these [tin] mines for more than ten years past . . . . The ore in question has been brought to this place by the Kansas Indians, formerly residing here, [who say] they obtain it on the Smoky Hill Fork of this river, about one hundred miles west of this place . . . . The Kansas blacksmith at this place smelted from the ore, in his forge fire, a quantity sufficient to make a large pipe tomahawk. I had also in my possession ten years since, a block of tin weighing one and a half pounds, smelted in a common log fire . . . . The rough sketch herewith submitted will give you some knowledge of its location . . . .

> The mine is too remote from the state to be visited by single individuals, being immediately within the range of the Pawnee and Camanche war-parties.

However, Schoolcraft (1853:159; also in Mead 1906:17-18) was not convinced, stating, "The geological sketch, sent by Doctor Lykins, indicates a country of sandstones, shell-rocks, &c., which are unfavorable to the discovery of tin-stone, wood-tin, &c. If this metal exists as an oxyde, that fact will probably itself constitute a discovery."

A steamboat trip up the Smoky Hill River in June 1854 produced the report that "specimens of Coal, both bituminous and anthracite, and of tin, lead, and iron ore, [had] been brought in" to Fort Riley (Park 1854). Within a few months it was reported that Indians had exhibited at various times to army officers "specimens of an ore supposed to be tin. This they represent as having been found high up on Kansas, but refuse to name or show the locality" (*Leavenworth Kansas Weekly Herald* [*LKWH*], 22 September 1854). Two weeks later in an account datelined at Pawnee, Kansas Territory, September 24, the same newspaper (*LKWH*, 6 October 1854) reported that in a few days a group of citizens intended to make an expedition "up the Smoky Hill about twenty-five miles, in search of the tin mine, and beds of gypsum, known to be on the banks of that river." By November 1858 Mr. Dean of the firm of Dix and Dean learned that the Kaw Indians had recently brought to the Kaw Agency "platina sufficient for a tomahawk, which was, after being fashioned into that weapon, forwarded to Washington. The Indians refuse to divulge where they discovered it, but it is understood to be somewhere on the Smoky Hill. Three companies have been formed to explore for the precious metal . . . . Tin mines have already been discovered there, and it may be the tin has been mistaken for platina" (*LR*, 25 November 1858). An 1861 Council Grove newspaper (*Council Grove Press* [*CGP*], 16 February 1861) summarized these earlier notices of tin and seemingly mentioned a later version of the Lykins map:

> The Smoky Hill country is the mineral region of Kansas; from which the Kaw Indians bring quantities of tin, copper, lead, and salt. The first mineral tin from the Smoky Hill, was brought to Council Grove by the Kaws, in 1848. It was smelted by John Awen and others, in a common forge, in the Government blacksmith shop, and cast into a tomahawk, and given to Maj. Cummings, agent for this people, who sent it to the War Department at Washington City, where it can now be seen. The Indians at that time, gave the Indian Department a map or diagram of the country, with the exact places marked where the metal existed; one on the North side of the Smoky Hill river, and two on the South side. A large amount of this mineral was brought by the same Indians to this place, this last summer, and is now in the possession of one of our merchants. This tin ore contains a large percent of silver.

In 1906 James Mead (1906:17) believed that the "legendary tin mine" was likely located on the head of Elkhorn or Elm Creek. He based this conclusion upon information from a General McGee, who had surveyed portions of the Saline valley in 1860 or 1861 and who supposedly had relied upon one of John C. Fremont's guides.

Flint, Chalk, and Free Stone

The further identification of the flint, chalk, and free stone is assuredly a problem for archeologists familiar with the lithic procurement strategies of the Kaws. This brings us to the second tier of investigation of this map.

The second tier of inquiry asks why the map maker traced these rivers a certain distance upstream and then stopped. The Republican River, for example, is traced to parallel the Solomon downstream from the Great Spirit Spring. However, the Republican's fork near Republic, Kansas, a fork where both branches flow in from almost due west, is not indicated. And the bend of the *Machehaha* (Smoky Hill River) from the west is not indicated. In both cases the displayed geographic knowledge of the river system to the west ends at the boundaries of the Pawnee hunting range as shown in O'Shea (1989:86) (Figure 4). In other words it would seem that the map displays the region of country

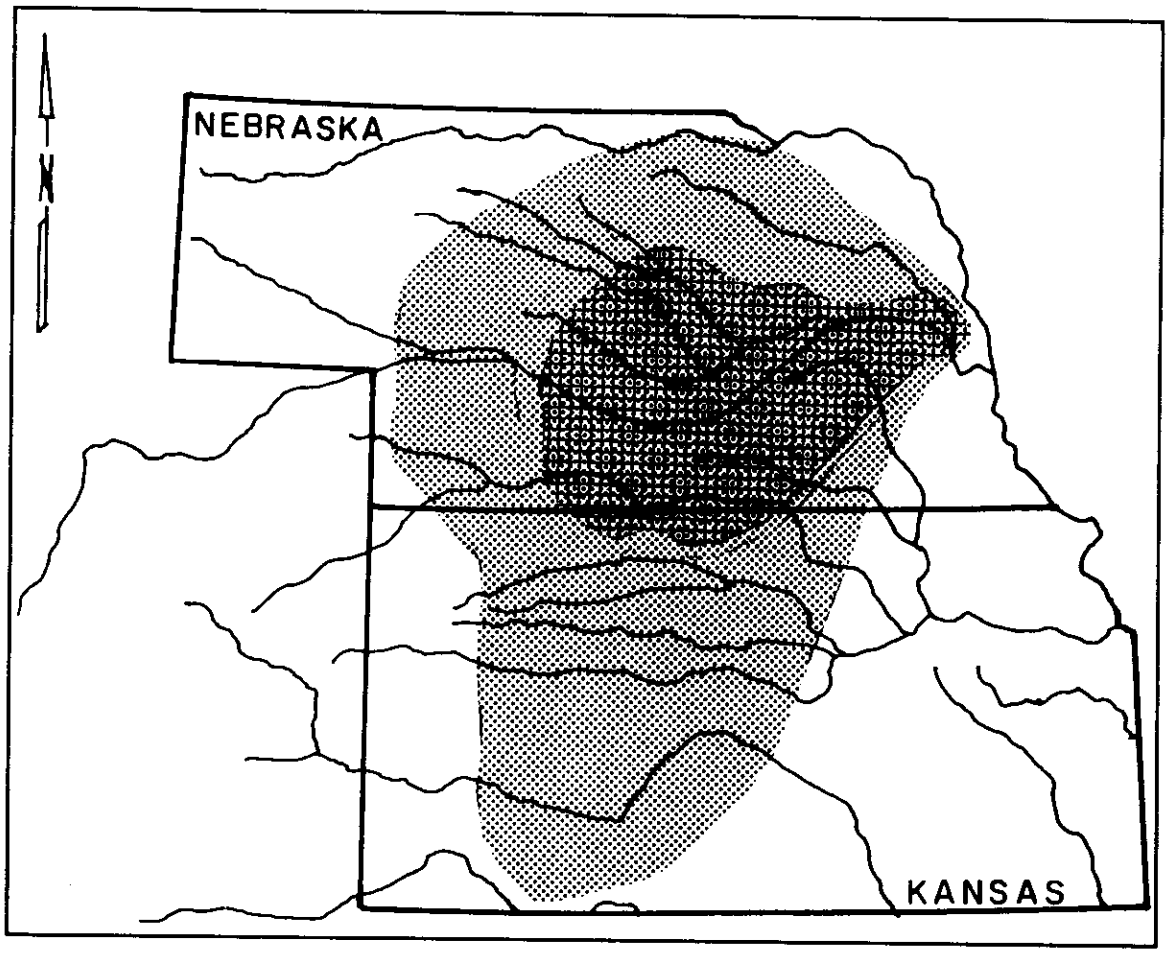

Figure 4. The dark hachured area on this map indicates the Pawnee core area, while the lighter shading indicates the Pawnee hunting range (after O'Shea 1989:86). According to O'Shea, the Pawnees claimed only the upper portions of the Smoky Hill and Republican rivers--which left the lower reaches to the Kansa Indians, very much as the Lykins map indicates.

in which the Kaws during the late 1840s might hunt freely and gather without undue fear of depredation by Pawnees, Comanches, or other Plains Indians.

"WAR DANCES" PERFORMED BY THE KAWS

In August 1854 Sac Indians killed a Kaw and refused to make a wergild payment to the Kaws, thereby launching a state of hostility between the tribes. (Wergild, a Germanic term literally meaning "man-money," refers to a sum of money that the relatives of a murdered person accepted from the relatives of the person accused of murder. An unending series of Hatfield-McCoy-style reprisals was thus avoided, provided both groups could agree on the terms of the wergild payment.) In retaliation Kaws stole some Sac horses, and by the spring of 1855 the situation had worsened. On Saturday, April 7, a party of about 20 Sacs murdered and scalped 3 Kaws who had been trading at McGee's trading post near 110 Mile Creek. About 70 Kaws, returning from a trading journey to Missouri and hearing only that the Sacs were thoroughly armed and proposing to waylay them on their return, camped about a mile west of Lawrence in early April, offering buffalo skins for sale at a low rate (*Herald of Freedom* [*HF*], 7 April 1855). Although their mules and horses were loaded down with trade goods, the Kaws were short on powder, lead, and cash. Remaining in camp until Wednesday, April 11, they only then learned of the fate of their three comrades and in desperation applied to leading Lawrence

citizens for assistance. A trade was agreed upon: an exhibition of "a war dance" for lead and a powder keg. The *Herald of Freedom* (14 April 1855) reported as follows.

> The party appeared in town just at night, accompanied by the female portion of the tribe, who had journeyed with them to the State. A ring was formed, composed of our citizens, in the center of which [were the Kaws] costumed, painted and equipped as they go forth for war. Their braves kneeled together in a circular form, in the interior of which they had a sort of drum on which they kept up a discordant sound, accompanied by a low humming guttural --while the squaws and children were ranged in the rear, apparently interested spectators of the scene . . . . The promised contribution was taken up, and from the proceeds two small kegs of powder and seventeen pounds of lead was bought and donated to them to be used in hunting buffaloes, or otherwise, as they should feel disposed.

Another Lawrence newspaper (*Kansas Free State* [*KFS*], 14 April 1855) added that "the dancers, of whom there were four, were in a state of semi-nudity, and painted in the most hideous style. About twenty others huddled closely together and sitting upon the ground, kept up a kind of barbarous music by singing and beating upon a drum." Another "war dance," more completely described in the *Lawrence Republican* (29 March 1860), took place in Topeka during late March 1860:

> One [Kaw war dancer] wore an otter skin cap, with horns about eight inches in length upon each side of the head. Two wore around their necks collars of bear claws, and two others were dressed in buckskin suits, profusely covered with fringes of the same material, and which, streamer like, trailed a foot behind. All of the dancers were painted; some black with streaks of red, some altogether red, some with blue in streaks, and one, a Camanche, probably through some freak peculiar to his position or tribe, was painted a ghastly pale yellow. The dance was conducted by about twenty persons, with about ten or twelve more sitting in a circle, and around which, in slow procession, the dancers moved. In the circle were seated the musicians, who kept time and made a sort of music by beating upon drums constructed of raw-hide, while all kept time and joined in a kind of low, dirge-like grunt, with an occasional Ugh! Ough! by some of the braves.

A few brief accounts locate Kaws elsewhere in the Kansas valley in the late 1850s. The complex inheritance and milieu of the family of Charles Curtis (1860-1936), living on one of the 23 half-breed Kaw allotments north of Topeka during this period, is discussed exhaustively in Unrau (1989). During July 1857 a number of Kaws, with a paper recommending them as friendly Indians, were in Leavenworth and vicinity east of Stranger Creek, waylaying travelers on the military road and robbing unoccupied houses. Leavenworth citizens were encouraged to drive them away, with firearms if necessary (*LKWH*, 25 July 1857). A few Kaws were observed in Lawrence in mid-August 1860 (*LR*, 23 August 1860).

Other intertribal developments are less visible in the record. A party of Pike's Peakers on Cottonwood Creek, on the Santa Fe Trail, and 220 miles from Lawrence during May 1858 met "nine chiefs, one a Kaw, and the rest of the Arrapahoe tribe, on their way to the Kaw nation to make a treaty" (B[oyer] 1858). More than a year later, a territorial newspaper (*LR*, 11 August 1859) reported that "the Camanche, Arapahoe, Kioway, Otoe, Osage and Kaw tribes of Indians are having a friendly meeting on Walnut Creek, about 130 miles west of Council Grove. Most of these tribes have been at war with each other for several years, but a grand treaty of peace has recently been made by the chiefs of the different tribes, and now the tribes themselves are ratifying it by having a grand pow-wow together." The *Kansas Press* [*KP*] (25 July 1860) of Cottonwood Falls reported in mid-summer of 1860 that "there are now encamped on the Little Arkansas, some seven or eight thousand warriors of the different tribes of Kansas."

ACCOUNTS OF LIFE ON THE KANSA RESERVE IN THE LATE 1850s

News of the Kaws interested Kansas territorial readers and investors elsewhere, of course. The prospective town of Columbia, Kansas Territory, situated on the north bank of the Cottonwood River, five miles above its junction with the Neosho River, was advertised as being "located upon the spot where now stands the great Hard Chief Village, recently evacuated by the Kansas Indians" (*LKWH*, 21 July 1855) (Figure 5). Two accounts from 1858 offer personal views of life among the Kaws. There being a great many Kaws encamped near the now-vanished town of Toledo in Chase county, a Pennsylvania journalist (*HF*, 8 May 1858) wrote on April 1, 1858:

> The first I observed on my approach was quite a number of poor sore-backed ponies that had been nearly killed by tremendous packing, [each frequently loaded] with four and five hundred pounds, under which they can scarcely stand . . . . On entering one of the [Kansa] wigwams I found five squaws and four papooses, all of which belonged to one Indian. Quite a breeze was created among the squaws while I remained in camp--several knives were drawn, but their Chief settled the difficulty. The babies were fastened to boards and set in a slanting position toward the fire. They were nearly naked, and when one of the chaps [cried], it was instantly brought to its senses by the mother taking it and stamping it up and down upon the ground, which had the effect of settling the young squaller . . . . Their tents are built of reeds woven together, open at the top. The fire is built in the middle of the hut, the smoke escaping through the opening at the top. The females were engaged in dressing buffalo hides, as they had lately returned from a hunting excursion. The work is all done by the squaws. Their clothing consists of a loose blanket and a swaddle; occasionally you find one with an old shirt on that was given to him by some sympathetic individual . . . . Their number at present is but little more than twelve hundred.

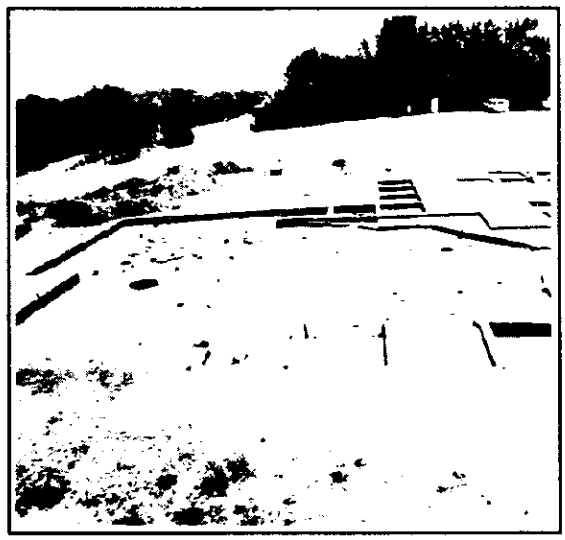

Figure 5. In June 1987 the Kansas Archeology Training Program excavated at Hard Chief's Village (14SH301). This view looks to the east across House 2, interpreted as the floor of a circular Kansa earthlodge.

Another account appearing in the same newspaper was written by Dr. C. H. Gran (1858) of Henry County, Illinois. On April 20, 1858, accompanied by H. L. Enos, Gran visited the Kaw village about two miles from the trading post of Seth Hays. He wrote:

> Their village contains about eighteen or twenty lodges, built in the following style: from six to eight feet long; green, limber saplings are stuck into the ground; canvas of various colors, hides, buffalo-robes, etc., are tied around the same; and, drawing them tighter towards the top, they bring the saplings together, leaving room, however, for the smoke --or, at least, for some--to escape. Such is their house. Stepping inside, we were greeted with a shouting sound, like "How? how?" The lords and masters we found smoking and card-playing, old and young. The squaws (ladies) were making or ornamenting leggins or moccasins. Some, old and young, sat around their centre-fires, tailor fashion, talking away lustily--very likely about their white intruders, and their pale,

> sickly appearance. Some of them had quite a number of buffalo robes, prepared and unprepared, which they were selling.

A previously unpublished account of Kaw housing near the Kansa Methodist Mission in present Shawnee County on May 21, 1840 (almost a generation earlier), though outside the scope of this study, is nevertheless of comparative interest (Browning 1840; compare Barry 1972:301-302, 366-367, 416):

> . . . their form is generally circular on the ground; and within a few feet of each other. they are built by seting a row of stakes the size wanted some 3 some 5 feet high, these form the side, and to keep them steady the earth is heaped up against them outside[,] a narrow opening being left for a door toward the North East. poles are put up for rafters and these are supported by upright posts inside. Sedge is then applied, and the whole is covered with turf a foot deep, a fire is kindled in the centre, and the smoke escapes at the top.

Best known of the routes from the Council Grove area to the buffalo country was the Kaw Trail, entirely within the Neosho and Arkansas basins, which led to the forks of Cow Creek in present McPherson County (Morehouse 1904). No doubt it was this well established regional hunting and fur-gathering economy, which on February 11, 1858, brought more than 400 Kaw Indians to trade furs and ponies for money and flour at Cottonwood Falls, Kansas Territory (*Freemen's Champion* [*FC*], 4 March 1858). Unnamed Indians brought in "a great many Buffalo robes, wolf and deer skins, etc." to Topeka during early February 1860 (*KSR*, 18 February 1860). But some Kaws also frequented the upper Kansas valley. One old settler (Shields 1918:169) recalled that "the Kaw Indians had a trail from Council Grove to Salina."

KAWS IN THE SALINE AND SMOKY HILL VALLEYS

James R. Mead (1986:104), the best known chronicler of the Kansa in the Saline and big bend of the Smoky Hill, affirmed that these areas were "favorite hunting-grounds of the Kaw Indians in the fall and winters of 1859, 1860, and 1861. A majority of the tribe were there." In the fall of 1859, Mead (1986:71) related, "Chief Shingawassa and his band camped in the heavy timber immediately back of our ranch, and they constantly asked us to trade with them. They were able to supply themselves with a great abundance of meat, but they lacked coffee, sugar, flour, and tobacco, of which they were fond." And having reaped a rich harvest of furs and meat, Mead (1986:90-91, compare also 1906:17) relates that the Kaws returned to their reservation towards the end of the winter of 1859-1860. Another early source (Morehouse 1904:209) stated:

> . . . for many years the Kaws claimed the territory now embraced in Marion, Dickinson, McPherson, Saline, Rice and Ellsworth counties as their exclusive hunting grounds, and their trouble with other tribes was caused because this claim was disputed. At some of these creek crossings, where their most favorable camping-grounds were located, their wigwam poles were often left standing in place, ready for the skin coverings the next time they came along. This saved them work and carrying so many camp equipments.

Luke Parsons (Figure 6) came to Lawrence, Kansas Territory, in 1856, later joining forces with John Brown at Osawatomie. Laying low in the midwest and Canada after the Battle of Osawatomie, Parsons returned to Kansas Territory in June 1859, and by February 1860 he had settled in Salina. His diary gives almost daily entries from January 1859 until early October 1861, when he enlisted in the U.S. Cavalry at Fort Leavenworth. He eventually served as a First Lieutenant in the Third Indian Regiment (Andreas 1883:208; Parsons 1860-1861). Luke's testimony, cited here from his diary only as to date of entry, bears further and more precisely dated witness to the friendly relations between the Kaws and the contemporary settlers of Salina (Figure 7). Parsons (1860-1861) relates about 10 other incidents with Indians of unspecified tribes, but the following items relate specifically to the

Figure 6. Luke Parsons became well acquainted with the Kansa Indians living in the vicinity of Salina in 1860 and 1861 (from *Republican* [*R*], 9 January 1916).

Kaws: On June 17, 1860, Parsons "went out on the Buttes. Stopped to see the Kaw Indians when we came home." On July 15 of that year, he "went up the Smoky about ten miles to find a place to get studding [for a log home he was building]. Got dinner with the Kaw Indians on my way home." After shooting a big gray wolf on the morning of October 23, Parsons saw Kaw Indians in town, noting that "some of them have some money." On November 23 there were "a good many Kaws in town. Name of one is Shingawa." The day after Christmas 1860, Parsons and Alex Campbell "went up to trade with the Kaws." On February 9, 1861, Parsons "bought a Spanish bridle from a Kaw." And on July 4, 1861, he "had a young folks party at our house in the evening. We fed twenty-seven Kaws at the third table." J. R. Mead (1986:102), mentioned by Parsons a number of times, adds that "in 1860 I took a load of goods to trade with the Kaw Indians at the 'Big Bend' of the Smoky."

Parenthetically, one might add that Parsons and an unnamed Junction City journalist were among the first to describe the Kansas rock art in this vicinity. A poor transcript of Parsons' diary entry for May 31, 1860, relates that, when

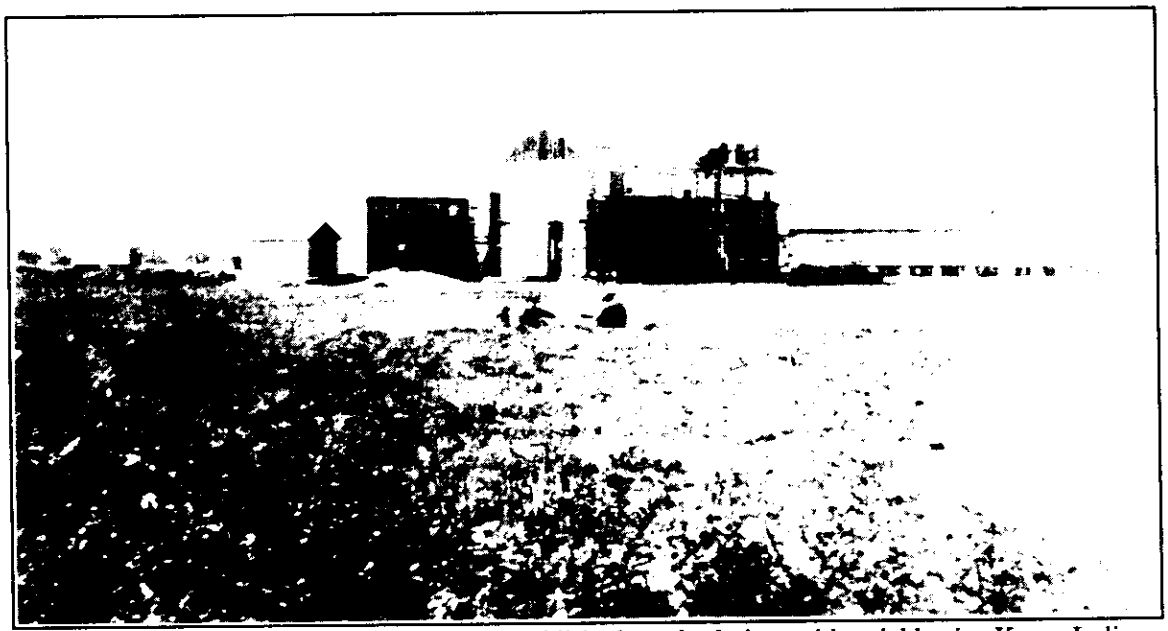

Figure 7. In the early 1860s Salina citizens established good relations with neighboring Kansa Indians. This photograph of Salina's hotel and railroad depot was taken by Alexander Gardner (1867b) in 1867.

on a buffalo hunting trip on the south branch of the Mulberry, 25 miles from home, he "discovered cave in sandstone rocks. Named it Cachywa [Kiowa] from the wild tribe of Indians. The walls are all covered with hieroglyphics and figures of Indians on horses, elks, etc., made by Indians. There is an excellent spring here." Parsons, Senator Pomeroy and wife of Atchison, and about five others apparently spent about four days in the vicinity of the cave (Parsons 1860). A correspondent of the *Junction City Statesman*, reporting on the country about 90 miles west of Junction City, wrote of "large white sandstone, resembling the mush room, standing on a stem of the same kind of stone. Some of them measure at least an acre on top [sic!]; the Indians have ornamented a few of them with rough sketches of Buffalo etc." (*KSR*, 1 September 1860; compare O'Neill 1981).

Perhaps because of their novelty to local journalists, results of the winter 1860-1861 hunt were variously noted in local newspapers. The *Council Grove Press* reported on February 23, 1861, "the Kaws have broken up their encampment on Smoky Hill River, and are on their way to this place. The trade in robes and fur will be active after their arrival." Later reports told of a blind woman and girl of the Kaw tribe returning from their winter hunt, of the furs and robes the Kaws traded to Council Grove merchants for provisions and clothing, and of frequent Kansa visits to town (*CGP*, 16 and 25 March 1861). Still later that spring, "Kaw Indians continue[d] to visit [Council Grove] daily, accompanied by their squaws. Their mode of entrance is somewhat amusing. A fat brave with his unctuous better-half, and a pack of buffalo robes, all piled upon the back of a small pony, is no uncommon spectacle. Being a man of business, the Indian immediately proceeds to the store to trade, and by a series of signs and grunts, manifests his desire to buy something . . . . Business transactions complete, the two leave for camp" (*Council Grove Republican* [*CGR*], 4 May 1861). Moreover, that spring in Council Grove, it was declared, "Indian ponies can now be bought of the Kaws very cheap. They are desirous of selling and give good bargains . . . . Ponies can be bought for ten dollars apiece" (*CGP*, 11 May 1861).

Sales of goods to local whites were not limited to furs, robes, or ponies. In mid-May 1863 Council Grove streets were enlivened for several days "with groups of staid matrons and shy maidens from the Kaw Nation, busily engaged in peddling wild gooseberries, which are remarkably fine for this season. They are found in abundance along the margins of all the streams" (*CGP*, 18 May 1863). Perhaps melons were also brought to town by Kaws (*CGP*, 17 August 1863).

Kaws also visited Fort Riley and Junction City (Figure 8). Anecdotes concerning several of the "several hundred" Kaws who annually camped in the mid-1850s on Lyon Creek and in

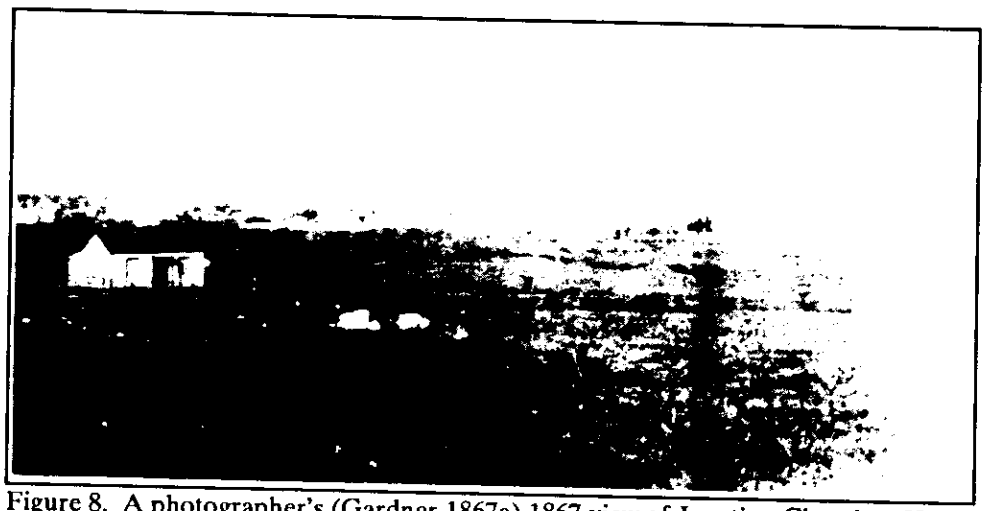

Figure 8. A photographer's (Gardner 1867a) 1867 view of Junction City when Kansa Indians were still known to visit the town, if only briefly.

Geary County are in McClure (1904:246-250). Connelley (1915:278) tells of "a band of Kaw and Pottawatomie Indians who were going to Fort Riley to hang about that post the remainder of the winter [i.e., from January 1857 until spring]. Shingwassa, a Kaw chief, was in command of the band. There were fifteen or twenty Indians--some of them women and children." About a dozen Kaws visited Junction City during mid-July 1862, and upon the disappearance of eight horses, two Kaws were jailed--although numerous white horse thieves had been caught that summer. They and the other Kaws escaped the next day (*Smoky Hill and Republican Union* [*SHRU*], 12 and 19 July 1862). A party of Kaws visited Junction City during the last week of January 1863, "indulg[ing] considerable in their propensity to 'swap'" (*SHRU*, 31 January 1863). On October 7, 1864, more Kaws visited the city on their way to the buffalo country. The *Union* (*SHRU*, 18 October 1864) noted that "they are in destitute circumstances."

Salina remained a favorite destination, while the nearby site of future Fort Ellsworth also hosted temporary Kansa lodgings. William Darnell recalled that in the fall of 1861 an encampment of Kaws on Ferris's ranch in present Ellsworth County lost a battle with another group of 25 Indians, tribe not stated (Root 1928:503; U.S. Army Engineering Department 1866 [Figure 9]). Christina Phillips Campbell, the November 1858 bride of Alexander Campbell, noted Kaws coming to trade pelts and furs at her husband's Salina "Frontier Store" in the late 1850s (*LR*, 9 December 1858; Stratton 1981:115-117). Six miles southwest of Ferris's place was the ranch of Joseph Lehman and D. H. Page. Upon its abandonment in 1864, it furnished timber and probably the locale for Fort Ellsworth (Staab 1991:8, 75). In late February 1862 Page and Lehman (1862-1863) knew of "plenty of Indians on the Walnut [Creek]." Lehman and Page's account book records that on April 5, 1862, "a man came in from Walnut and reported four other Kaws were captured by Cheyennes." By 1864 Salina merchants boasted that they received "considerable trade from the Indians and others on the frontier" (Stark 1864:205). The 'big bend' of the Smoky, according to *Union* accounts throughout this period, was also hunted and trapped by Sacs, Delawares, Kickapoos, Otoes, and Potawatomis, as well as Kaws. Therefore, one cannot conclude that the recently abandoned "Indian camp" seen by A. A. Morrison (1863) on January 18, 1863, near Salina was a Kaw camp.

A Council Grove correspondent reported on May 15, 1862, that several parties had been brought before the U.S. Commissioner on charges of having sold liquor to Indians. "Two of the parties were held to bail in the sum of $500 each. The business has been carried on quite extensively. The Kaws were becoming wholesale dealers with the Kiowas and Arrapahoes in the same article of commerce" (*SHRU*, 29 May 1862). Rumor had it that the Kiowas and Cheyennes near Fort Larned also were Kaw customers (*SHRU*, 12 June 1862).

The August 6, 1864, raid on the Moffit homestead, located some 25 or 30 miles west of Salina, left four dead and two or three white survivors. It is not likely, as was briefly claimed, that the murderers were Kaws. "Men with the [rescue] party . . . who are well acquainted with the plain Indians . . . found at the place of the massacre arrows of the Camanches, Kiowas, Cheyennes, Arrapahoes, one Kaw bow and arrow, and also arrows which they knew nothing of. The [sole surviving] woman has given testimony that there were shaved headed and painted Indians, which no doubt were the Kaws" (*SHRU*, 27 August 1864; see also Staab 1991:62).

In sum, from 1857 into the autumn of 1864, Kaws made seasonal (usually October to February and July to August) visits at sites within the bounds of the map drawn by Lykins. Relations with whites, although marred by rumors of horse thieving, generally remained on the level of trading for goods and sometimes rose to the level of genuine camaraderie. But signs of trouble with other Plains tribes were mounting, even though some Kaws apparently became middlemen in the coveted Plains whiskey trade.

KANSA INDIANS WITH THE U.S. MILITARY, 1860-1865

One column of a two-pronged expedition against Kiowas and Comanches during the summer of 1860 in the Kansas and Republican valleys was guided in part by Kansa Indians

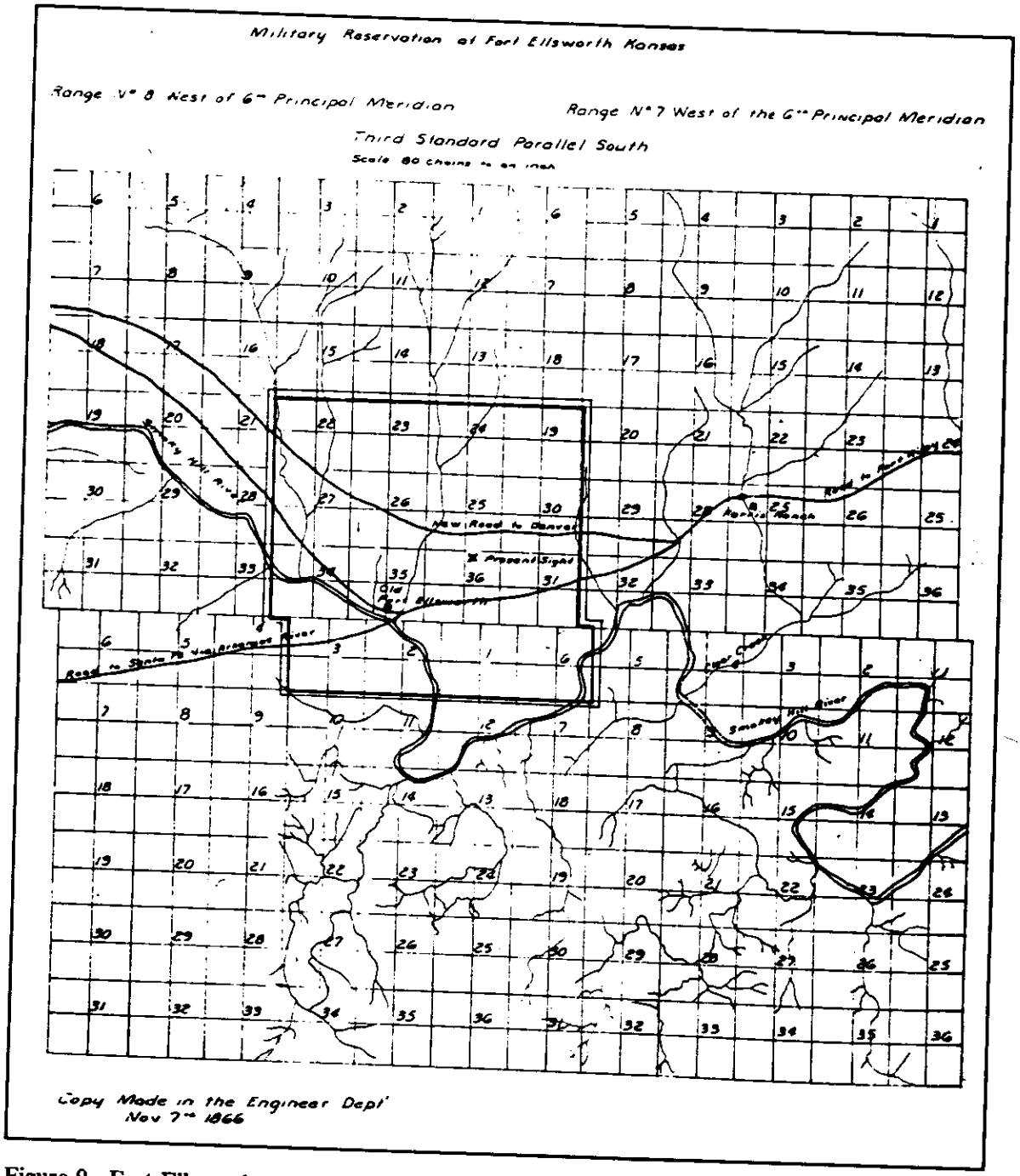

Figure 9. Fort Ellsworth was officially renamed as Fort Harker in an order issued at the Adjutant General's Office on November 6, 1866, but the order was not received at the post until November 22. Strangely enough, this map, "Military Reservation of Fort Ellsworth Kansas," was drafted within this interval of time. It depicts Farris Ranch and "Old Fort Ellsworth," the site of Lehman and Page's 1864 ranch. The "Present Sight" [sic] became the location of Fort Harker.

familiar with the terrain. During June 1860 Captain Samuel D. Sturgis led this column, composed of 11 officers and 419 enlisted men from 6 companies of the First Cavalry, from encampments at Forts Arbuckle, Washita, and Cobb to a rendezvous point near the Cimarron Crossing of the Arkansas River, arriving on July 3. Two weeks later the expedition camped about

5 miles from the mouth of Cow Creek and found about 300 Kaw Indians laying in their winter stock of buffalo meat. On July 21 the expedition made camp on Pawnee Fork. Guided by 20 Kaws and Tonkawas, who promised to guide the command to a camp of about a hundred Indians on Solomon's Fork, Sturgis left his camp on Pawnee Fork (near present Fort Larned) on July 28. Camps of July 30 and 31 and August 1 were all on the Saline River. Discovering buffalo meat, hides, and lodge poles strewn about an abandoned camp at Solomon's Fork on the morning of August 2, the command remained there that day, marching again due north at dusk. On August 3, Sturgis reported, "five of our Indian Scouts fell in with a large part of the enemy and two of them [Tonkawas] were killed and the others wounded--one fatally and has since died--three of the enemy also were killed and several wounded." The skirmishes continued until August 6; the command was at Fort Kearney, Nebraska Territory, by August 9, reporting 29 enemy (Kiowas, Comanches, and perhaps Cheyennes) dead and many enemy wounded (Barry 1958:408-414; Hafen and Hafen 1959:212-213, 245-254).

Corroborating the official accounts, a Council Grove journalist reported, "when at Fort Riley, the other day, we met Capt. Sturgis, with six Companies of Cavalry, direct from Fort Karney [sic], where he had a successful battle with the Kiowa Indians. They got after the Indians on the Arkansas river; followed them up to the Republican Fork, where a running fight commenced, which was kept up for three days. Some forty of the Indians were killed. A party of Kaws and Texas Indians acted as guides. -- They took twenty-seven scalps, and seem much elated with their trophies" (*CGP*, 1 September 1860). Perhaps emboldened by their new role in Plains warfare, several Kaws in May 1861 offered to join a local militia unit (*CGP*, 25 May 1861), an offer that seemingly was not accepted. Less than four months later Hiram Farnsworth, the Kansa agent, reconsidered but finally rejected the desirability of Kansa troops in the U.S. Army (Unrau 1986:199).

An inspection of the company roster of Company L of the Ninth Kansas Cavalry, which began recruitment March 2, 1863, under First Lieutenant John I. Delashmutt, reveals numerous names apparently Kansa in origin. Among these names are the following: William Hardheart, Joseph Germengo, Add Doris, Conasalla, Little Bear, Eli Elkhorn, James Otter, Eagle Ocia, Peter Shoto, Shunga Nuga, Joseph Wolfe, Arson Aqua, Edward Gahoga, Joseph Kickapoo, Eli Kasa, John Nega (of Osage Mission), and Little Thunder. All these men except John Nega gave their residence as Council Grove, and all enlisted into the company on dates ranging from March through July 1863. Company organization was completed by September 21, by which time Delashmutt had been named Captain (Kansas State Printing Company 1896:168, 331-334). Company L was stationed at Fort Scott, Kansas, over the winter of 1863-1864 (U.S. War Department 1893 22(II):761, 34(II):206). Company L, 51 strong, arrived at Fort Leavenworth on May 23, 1863, and departed on June 9 (*Fort Leavenworth Consolidated Morning Reports* 1862-1864). The Leavenworth *Daily Conservative* [*DC*] of May 27, 1863, noted their arrival but misspelled the captain's name: "Capt. John Delorhumtt's company of Indians are camped up on the 'Blue Grass' near the Fort. It is well disciplined, and will do good service under its gallant commander." On June 9 the *Conservative* further reported, "Capt. Delashmutt's company of Indians camped near the Fort, have received their horses and will soon join their regiment--the Ninth." During March 1864 the entire Ninth Kansas was ordered out of the District of Kansas and into Arkansas (Andreas 1883:193-194; U.S. War Department 1893 34(II):764). It was reported that on March 24, 1864, "a company of Kaw Indians, belonging to the Ninth" arrived in Lawrence to join their regiment (*Kansas Daily Tribune* [*KDT*], 25 March 1864). Of the 17 men listed here, all but 2 either died in service or mustered out with the company on July 17, 1865, at DeVall's Bluff, Arkansas (Kansas State Printing Company 1896:331-334).

As late as August 1865 a soldier's newspaper issued at Fort Riley reported that one company of the Ninth Kansas was composed entirely of Indians. "They are mostly Kaws, and their head chief is one of the sergeants. Many amusing incidents are related of their early career as soldiers. The greatest difficulty to overcome was to make them dress as soldiers. In the heat of summer they would insist upon walking through

the streets of Leavenworth in their drawers alone" (*Soldier's Letter* [*SL*], 19 August 1865). Unrau (1986:199) reports that at least 70 Kaws served in the Union Army, and Leland (1867:27) reported a total of 84. Clearly, the role of Kaws as United States soldiers merits further inquiry.

KAW CONFLICT, OCTOBER 1864, WITH CHEYENNES, ARAPAHOES, AND KIOWAS

The October 7, 1864, visit of Kaws to Junction City, noted in the October 8 *Smoky Hill and Republican Union*, led to conflict. First word on trouble among the Kaws on Lyon Creek came from Lieutenant Albert Helliwell at Fort Riley, ordering the commanding officer at Salina on October 18, 1864, to send 10 or 12 men to inquire into the truth of the reports and to station some of the men there if necessary (U.S. War Department 1893 41(IV):99). First Lieutenant Jacob Van Antwerp, Eleventh Kansas Cavalry, commanding officer at Salina, replied to Helliwell on October 26, stating that Kaws just in from a hunting expedition reported Cheyennes and Kiowas "in large force forty miles from here up the Salina river." The Kaws had had an engagement with them and had lost two men but had captured a government horse, which they had turned over to Van Antwerp. If issued rations for themselves and their families, they proposed going back and fighting (U.S. War Department 1893 41(IV):259).

The next day, October 27, Captain Elisha Hammer, Company G, Seventh Iowa Cavalry, stationed at Salina, arrived at Fort Riley. He stated that the Kaws reported "the Arapahoes and Cheyennes as about 600 strong, moving in a northeasterly course after having crossed the Saline about forty miles above Salina," perhaps therefore moving toward the settlements in the northeast part of the state (U.S. War Department 1893 41(IV):290). Major B. S. Henning of the Third Wisconsin Cavalry, commanding the District of the Upper Arkansas (headquartered at Fort Riley), considered the information so reliable that he left Fort Riley on Thursday at 5 p.m. and reached Salina at 2 p.m. the next day. There he determined the facts of the recent raid, though not its precise date, and returning to Fort Riley by October 31, sent his report that day to Major C. S. Charlot at Fort Leavenworth:

> A party of thirty Kaws were attacked by a force of Cheyennes and Arapahoes while hunting on the Saline, fifty miles from Salina, and . . . the Kaws had 2 men killed and 15 ponies captured, and they estimated the attacking party at from fifty to seventy-five, and state that a larger party is at the Big Timber, in the Saline, seventy miles from Salina. As the information was so uncertain I directed Captain [Theodore] Conkey [Third Wisconsin Cavalry] to start in that direction from Fort Zarah, as the Big Timber is only forty miles north of that post, and ascertain . . . the truth of that report before sending any larger force among them. I am satisfied that no danger need be felt in regard to their advancing on the settlements (U.S. War Department 1893 41(IV):357).

Since the *Smoky Hill and Republican Union* did not publish its regular issues of October 15 and 22, the next public notice of what happened came from the October 29 *Union*, which stated:

> Dispatches came into Fort Riley Thursday afternoon [October 27], announcing a scrimmage on the Saline between a hunting party of the Kaws and a band of Kiowas and Camanches. The Kaws were overpowered and were compelled to fall back upon the settlements. They lost two men and brought in a horse, which was identified as one that had been stampeded from Ellsworth last summer [i.e., August 7, 1864; compare Staab 1991:62-63]. The Kaws asked for rations and a party of whites to go with them in search of the wild devils. Major Henning started out immediately with a company of cavalry and two pieces of artillery.

A letter from Fort Riley in regard to the Kaws and their operations on the Saline River was sent to Captain Hammer at Salina on November 23 (Hammer 1864), but the content is unknown. Although there were more raids on upper Kansas valley military sites during the remainder of the year, notably the December 4 raid on Fort Ellsworth, in which 1 teamster was killed and 2 horses and 6 mules were stolen, no

Kaws were accused of these misdeeds (compare U.S. War Department 1893 41(I):981-983).

THE LAST HUNT, FALL 1866

The first word on the presence of Kaws near Fort Ellsworth during the fall of 1866 was from Captain Daingerfield Parker, Third Infantry, commander at the post, who on November 5 requested authority to issue rations to destitute Indians (Parker 1866). Charles Godfrey Leland (1867:44-45) met Kaws at Fort Ellsworth on November 9, leading this author to conclude that Parker's destitute Indians were in fact Kaws. After journeying to Fossil Creek in present Russell County, Leland (1867:68-71) apparently returned to Fort Ellsworth about November 13 and spoke with an older Kansa man and 2 young Kansa women, recording 37 words or phrases in Kansa with translations. Most of these words correspond phonetically and semantically with the appropriate entries in Rankin (1987). The older Kansa used a few English pronouns. Leland (1867:68-71) also purchased from one of the young women an "Indian whip studded with brass nails." But these three Kaws were in fact only a small portion of the tribe in the vicinity. A Junction City newspaper (*Junction City Union* [*JCU*], 1 December 1866) reported, "large numbers of the Kaw Indians are on the Smoky Hill, in the great bend, south of Salina, engaged in trapping. They are doing a big business, we are informed, in the beaver and otter line, and also preparing buffalo robes."

A few Kaws remained in the Saline valley. The *Junction City Union* (9 February 1867) reported:

> A party of Omahas and Kaws made a thieving raid upon some Cheyennes a few days since, on the Saline. Several head of Cheyenne stock were run off, and one Kaw killed. William Comstock, a famous interpreter, Government scout and guide, says the Cheyennes and Arrapahoes of the Arkansas and Smoky Hill are friendly, but that a host of Northern Indians are on their way down, whose march has already been characterized by murder and plunder. He believes they mean war.

An altercation in the Arkansas valley in early December 1867 very nearly brought the Kansa presence outside of the Neosho and Arkansas valleys to an end. Cheyennes, ostensibly on a peace-seeking visit to a Kansa winter hunting camp on Plum Creek near Fort Zarah, instead killed and scalped a Kansa herdsman. The resulting battle left 14 Cheyennes and 2 Kaws dead, with both sides losing substantial numbers of animals. In the retreat to the Council Grove area, which they reached on Christmas Day, at least 60 Kaws died of hunger and exposure. Livestock losses left them with only about 150 animals for the entire tribe (Unrau 1986:209).

This disaster effectively terminated the Kansa presence in the upper Kansas valley. As Unrau (1986:209) justly concludes, ". . . a return to the buffalo country after the Cheyenne affair was out of the question."

CONCLUSIONS

1. The band of Kaws reported in the upper Kansas valley from 1855 to 1864 was probably the small band led by one Shingawassa. About 24 Kaws (4 men, the others women and children) visited Lawrence in April 1855; Shingwassa with perhaps 20 followers, some of them women and children, was at Fort Riley in January 1857; about 32 Kaws danced in Topeka in late March 1860; no more than 15 Kaws accompanied Sturgis on the July-August 1860 expedition; Parsons reported 27 Kaws at the July 4, 1861, celebration in Salina; about a dozen Kaws visited Junction City in July 1862; and about 30 Kaws, a hunting party, reported trouble with Kiowas and others to military commanders at Salina and Fort Riley during October 1864. Further, Mead recalled a Chief Shingawassa and a band of followers in the Saline valley in the fall of 1859, and Parsons recorded an encounter with one Shingawa near Salina on November 23, 1860. This is almost certainly the same *She-ga-wa-sa* who signed the Kansa treaty with the United States, dated October 5, 1859, and the same *Shun-gah-wah-sa* who signed the March 13, 1862, Kansa-United States treaty (Kappler 1973:800-803, 829-830). Because of other tribes known to have been in the vicinity at the time, the December 1, 1866, Junction City paper's report of "large numbers of Kaws" is too imprecise to be useful.

2. Mead implies only a winter Kansa presence in the Saline-Smoky Hill country, but Parsons implies a June-July and an October-February residence, and this is reinforced by the *Junction City Union* accounts.

If the presence of Kaws in this vicinity is well established, then the fires reported there during late October 1853 by Solomon Carvalho, a member of Fremont's fifth expedition, may have been set by Kaws. The location of the October 30 camp--possibly in the vicinity of New Cambria, Saline county--and the appearance of the prairie fires that night were recorded by Carvalho (1971:116-117) as follows.

> During the day, the sun was completely obscured by low, dark clouds: a most disagreeable and suffocating smoke filled the atmosphere. We were still encamped on the Saline fork of the Kansas River . . . . Night came on, and the dark clouds which overhung us like an immense pall, now assumed a horrible, lurid glare, all along the horizon. As far as the eye could reach a belt of fire was visible. We were on the prairie, between Kansas River on one side, Solomon's Fork on another, Salt Creek [the Saline River?] on the third, and a large belt of woods about four miles from camp on the fourth.

Following the theories of a Professor Espy, Carvalho believed that the clouds of smoke produced by prairie fires condensed into dew or rain. He (Carvalho 1971:108) explained, "It is not unlikely that the Indians, who have from the earliest knowledge of the prairie country annually set the high rank grass on fire, did it to afford artificial moisture for the immense tracts of buffalo grass plains, on which subsist hundreds of thousands of buffalo, elk, and deer. No rain falls at certain seasons, and without dew the grass would be all burnt up by the scorching heat of the sun." Of course, the current understanding of the role of fire is that annual burning efficiently and economically keeps grasslands relatively free of trees and brush thereby indirectly promoting better weight gains in livestock (Hoy 1993).

3. Parsons (9 February 1861) and Leland (1867:68-69) relate purchases of Kaw-manufactured bridles and whips of hide, reflecting an incipient Kansa leather industry. On May 4, 1834, John Kirk Townsend (1978:38) "traded with the [Kansa] Indians for a considerable number of robes, apishemeaus, and halter ropes of hide." In 1835 Richard Cummins (1835) found that the Kanzas were "exchanging halters & strings made of Elk skins &c. for Corn." Ottawas on the Marais des Cygnes, relocated there from Ohio in the 1830s, were supplied "with an abundance of jerked buffalo meat, tanned robes and plaited rawhide lariats" through barter with the Kaws (King 1915:375). Kansa parfleches are depicted or discussed in Unrau (1986:25-49, 78-79) and in Morrow (1975:154, 156), but the archeologically invisible bridles, halters, and whips have not received much attention in the literature. Drums were also partly of leather manufacture, as were leggings, moccasins, and bull boats. Other goods purveyed by Kaws to whites included furs or robes, apishemores (leather saddle blankets), ponies, gooseberries (possibly *Ribes odoratum*, the buffalo currant [Kindscher 1987:196-198]), and perhaps melons.

4. The numerous accusations of horse thieving against the Kaws were answered pragmatically on at least one occasion when the Kaws returned a government horse to the commanding officer at Salina on about October 26, 1864. The horse had been taken from Kiowas and Comanches, who in turn possibly had stolen it in the August 7, 1864, raid on Fort Ellsworth.

5. Arguably, the motives for joining the Sturgis expedition and later Company L of the Ninth Kansas Cavalry were to secure the assistance of the U.S. military in the defense of the Kansa, to gain familiarity with military armaments and methods of defense, and perhaps to gain access to weaponry. These perhaps factor into the Kaw conflict with the Cheyennes over the winter of 1866-1867, which by sheer numbers was a victory, albeit a Pyrrhic victory, for the Kaws.

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TRADEWARE IN THE CENTRAL PLAINS TRADITION: STEED-KISKER PRESENCE, INFLUENCE, AND JOINING OF THE CENTRAL PLAINS TRADITION

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Survey of "tradewares" in ceramic assemblages of Central Plains tradition sites in Nebraska, Smoky Hill, and Pomona phases yields ceramics attributable to Steed-Kisker, Cahokia/lower Mississippi, and the Caddoan area. The most prevalent ceramic cited as a tradeware is the opposed diagonal jar, shown through petrographic analysis to be manufactured from local clays and not a tradeware. A new type name is proposed for the opposed diagonal jar form--Majors Opposed Diagonal. The type dates after A.D. 1250 and most likely originated out of the Steed-Kisker phase. While radiocarbon dating of the various phases shows considerable overlap, cross dating of ceramics reveals otherwise.

INTRODUCTION

by John D. Reynolds

Archeologists in Kansas commonly employ a rather simple classification scheme wherein specific components or sites are assigned to one or more temporal periods, i.e., Preceramic (Paleoindian and Archaic) and Ceramic (Early, Middle, and Late). In this scheme the Middle Ceramic period spans a time period from ca. A.D. 900 to 1500 and includes identified archeological cultures such as the Central Plains tradition (Nebraska, Upper Republican, and Smoky Hill phases), the Pomona variant, the Steed-Kisker phase of an unnamed tradition, and others. Each of these identified archeological cultures has formal, temporal, and spatial characteristics. For example, the Smoky Hill phase of the Central Plains tradition encompasses a large number of presumably related sites in east-central Kansas that date within the Middle Ceramic period and share material culture traits such as globular, cord-roughened pottery, triangular arrowpoints, bison scapula hoes, and, when present, remnants of square to rectangular earthlodge structures that were built upon the ground surface. Trait, geographical, and temporal differences are then used to relate sites to each other and to other complexes.

The difficulties in this approach are considerable. For example, Kansas sites obviously may have relationships with nearby sites in Oklahoma, Missouri, and Nebraska, although sometimes differences in classification schemes from one area to another may obscure these associations. The problem is compounded when attempts are made to discover broader connections to more distant archeologically identified complexes. Thus, the relatively well known Cahokia complex, a Mississippian culture identified in eastern Missouri and western Illinois and dating within what Kansas archeologists would call the Middle Ceramic Period, is occasionally evidenced on Kansas sites by the finding of distinctive artifacts that appear to be peculiar to that complex.

Recognition of distinct artifact types at locations distant from their presumed point of origin has been one of the traditional ways that archeologists have used to explore connections between prehistoric groups. One of these traditionally identified tradewares, which will herein be named the Majors Opposed Diagonal type, is examined in detail in terms of distribution, temporal parameters, and indications of cultural relationships in the paper that follows.

Several generations of Plains archeologists have cited ceramics of Middle Mississippian origins as being "tradeware" in Central Plains tradition sites. In the literature the presence of tradewares, i.e., shell-tempered ceramics or incised ceramics, has been cited repeatedly. Sterns (1915), Gilder (1926), and Strong (1935) have all commented on finding in Nebraska sites distinctive ceramics reminiscent of Middle Mississippian cultures to the south and east. Attributes used to distinguish these ceramics were shell tempering, incised decorations, burnished surfaces, strap handles, jar forms with low or rolled rims, and bowl or bottle forms.

William Duncan Strong (1935:256) theorized that the presence of shell-tempered, incised ceramics was the result of trade exchange between Central Plains people and peoples to the south and east. Strong felt that the presence of such a group in the area, practicing a shell-tempered ceramic tradition, could account for the small amounts of these ceramics showing up in Nebraska culture sites. As an example of such a site unit intrusion, Strong cited the Majors site (25NH2) in Nemaha County in southeast Nebraska along the Missouri River. The Majors house site was partially excavated by Frederick Sterns in 1914 and later reexcavated by a Nebraska State Historical Society crew of Hill, Cooper, and Lamb in 1937. Strong also found in Nebraska phase sites ceramics with incising on vessels that appeared to be typical of the Nebraska culture, indicating adoption of the incising technique by the local group.

Earl Bell and G. H. Gilmore (1939) note the occurrence of shell tempering in the Nehawka and Table Rock foci of the Nebraska phase in varying amounts less than 50 percent. They also note the appearance of incised shoulder decoration on ceramics tempered with grit or sand. The incised decoration was described as parallel lines to form triangles. James Gunnerson (1952), in developing a Nebraska culture ceramic classification, used a collection excavated by Sterns. He commented that the incised decoration occasionally was found on shoulder sherds in geometric patterns of straight or curved lines. Gunnerson did not classify the incised sherds to a type of the Nebraska wares.

Waldo Wedel (1959:614-615), in addressing the issue of an incised ceramic trait being associated with Oneota, noted the presence in southeastern Nebraska and northeastern Kansas of ceramics with strap handles, shell tempering, and angular decoration that predates Oneota occupations in the area. Wedel went on to describe,

> More plentiful is a basically triangular arrangement of contiguous blocks of oppositely slanted parallel lines repeated about the vessel shoulder. This has a wide distribution on pottery of the Eastern United States, apparently in both Middle and Upper Mississippian contexts. Whatever its derivation, this is not Oneota; but its wide spread along the eastern plains and in the Missouri valley offers an interesting problem whose closer examination might well contribute to solution of other problems on this general time level in the region.

In a study of incised ceramic designs, Raymond Wood (1962) found in the central and northern plains village sites that the opposed diagonal, alternating triangular design originated along the eastern edge of the Central Plains from Mississippian stimuli. Maria Wille (1958) in an examination of Central Plains tradition sites cited a Mississippian presence and influence in the ceramics, suggesting that a Middle Mississippian phase should be considered in Central Plains taxonomy.

James Sperry (1965:129-132) in an analysis of two Central Plains tradition sites, 14GE21 (Miller) and 14GE127 (Rush Creek), in the Milford Reservoir on the lower Republican River drainage, viewed the sites as being highly influenced by a Middle Mississippian horizon to the east. The Miller site's ceramic assemblage consisted of shell-tempered, smooth-surfaced jars with angular incising of opposed diagonals on the shoulder. Sperry regarded the site's ceramics as having close similarities to Steed-Kisker and suggested that it be considered a variant of the same complex. The Rush Creek site represented a mixture of Central Plains

tradition ceramics and shell-tempered, incised ware. Sperry interpreted the site as being influenced by the Miller site with mixing of the two ceramic traditions. He speculated that the Kansas River served as a route for the diffusion of Mississippian influences from the east.

Lionel Brown (1967:48-49) in a seriation of Nebraska phase materials in the Glenwood locality attributed the occurrence of shell tempering in the southern areas to their close proximity to the Steed-Kisker culture area. T. L. Steinacher (1976:92) attributes shell tempering and incising in the Smoky Hill aspect to Steed-Kisker influences. In their appraisal of the Nebraska phase, Donald Blakeslee and Warren Caldwell (1979:79, 109-110) noted the high occurrence of shell tempering and incised shoulder designs in the southern sites of the Nebraska phase. They argued that the designs were distinct from Steed-Kisker designs, with the Steed-Kisker designs being more curvilinear. They believed that shell tempering and incising occurred early along the Missouri River and persisted later in the western localities.

The sample for this study consists of 37 sites in Kansas, Nebraska, and Missouri from the taxonomic units of the Nebraska, Smoky Hill, Pomona, and Steed-Kisker phases (Table 1). The sites selected vary among surface collections, limited tests, excavated middens, and houses. Steed-Kisker sites (Table 2) were chosen for comparative reasons since Steed-Kisker is most often cited as the probable source for tradeware and the closest cultural manifestation in the area that has a ceramic tradition heavily inspired by Middle Mississippian influences. In this paper the author wishes to focus on the ceramic traits of incised designs and vessel forms, making a comparison between those found in Steed-Kisker ceramic assemblages and those found in Central Plains tradition sites.

Steed-Kisker ceramics have two types: a decorated Steed-Kisker Incised and an undecorated Platte Valley Plain (Chapman 1980:292-293, 297). Vessel forms in the ceramic assemblage include jars, bowls, beakers, and bottles (Figure 1). Two jar forms, both with loop or strap handles, occur. The carinated (angular-shouldered) jar form, popular early in the sequence, is similar to the Ramey and Powell jar forms from Cahokia, found in the Stirling (A.D. 1050-1150) and Moorehead 1 (A.D. 1150-1200) subphases. (Examples of Ramey Incised show up in Steed-Kisker sites 23BN2 and 23PL4 [Young] [Figure 2].) A second jar form has a rounded shoulder, and this appears to gain in popularity in the Steed-Kisker sequence and replaces the carinate jar form. On the basis of ceramic forms, it could be possible to divide Steed-Kisker into subphases--the carinate form dating A.D. 1000 to 1150 and the rounded shoulder jars from A.D. 1150 to 1250. The variation range of decoration found on shoulders of incised jars can be seen in Figure 3. The bowl form includes several varieties, such as inflaring or outflaring rims, ranging from undecorated to incised, and/or applied effigies and tabs. Applied tabs or lugs, found on bowl forms, are often vertically perforated. Effigy subjects include birds, bears/dogs, and humans. Beaker forms with fine shell temper or no temper also occur with finely incised decorations and vertically perforated lugs. Beaker forms are also found in the American Bottoms around Cahokia and are considered nonlocal, originating from the lower Mississippi or Arkansas River valley (Pauketat 1994:100-101). Water bottle forms of both high- and low-necked varieties also occur. The low-necked water bottles often have handles.

Temporally, Steed-Kisker radiocarbon dates range from A.D. 690 to 1315. Ramey ceramics found in Steed-Kisker sites can be cross dated to Cahokia. In the Cahokia area Ramey ceramics date from A.D. 1050 to 1200; in the Stirling phase, from A.D. 1050 to 1150; and in the Moorehead 1 subphase, from A.D. 1150 to 1200. O'Brien (1993) in examining radiocarbon dates and cross dating Cahokia ceramics places Steed-Kisker from A.D. 1050 to 1250. She suggests that A.D. 1250 is a terminal date for Steed-Kisker in the Kansas City area.

Spatially, the core area for the Steed-Kisker manifestation has centered in Platte and Clay counties, Missouri, where it was originally defined and where the most substantial work has been conducted. Accumulated evidence gives a greater range out from the initial locality. Since Steed-Kisker is associated with Middle Mississippian culture, it has been assumed that

there are Mississippian sites along the Missouri River back to the Cahokian area. Recent work by O'Brien (1993) shows possible Middle Mississippian temple mound sites in Franklin County, Missouri, along the Missouri River. Northernmost sites are found along the Missouri River in Andrew County, Missouri. A southern range for Steed-Kisker can be speculated, based on evidence of hunting camps in the western Ozarks (Wood 1968). Western limits have been expanded across the Missouri River into the Kansas counties of Johnson, Wyandotte, and Leavenworth with the westernmost site in the Delaware River drainage of Jefferson County.

Steed-Kisker jars as tradeware show up in Pomona and Nebraska phase sites (Figures 4 and 5). Pomona sites with Steed-Kisker jars are 14JF303 (Keen) in Jefferson County (Figure 4c and d), 14OS314 (Harsch) in Osage County (Moore and Birkby 1964:42-58, Plate 7d; Figure 5f), and 14MM551 (Shay) in Miami County (Blakeslee and Rohn 1982:1040, 1102, 1117-1118). The Keen site vessels had incised shoulder patterns of a single undulating band. The single vessel at the Harsch site had an elaborate incised shoulder pattern of nestled arcs and boxes. The Shay site ceramics were undecorated. Steed-Kisker jars found on Pomona sites are all carinate forms. If the carinate jar form is early in the Steed-Kisker sequence, it would appear that contact with Pomona occurred early (A.D. 1000-1150). Pomona could represent a transition between Late Woodland and Central Plains tradition, with Steed-Kisker contacts influencing Central Plains tradition developments.

Nebraska phase sites with Steed-Kisker jars are 25CC1 (Ashland), 25CC16 (Baker), and 25CC18 (Patton), all in Cass County, Nebraska. The Ashland (Figure 5e) and Patton (Kunkel 1970:89, Plate II, Figure 7) sites each had a shoulder incised vessel. The Baker site yielded a reconstructible shell-tempered vessel with a carinate shoulder (Figure 4a). A single site in Kansas, 14DP2 (Doniphan) in Doniphan County, had a shoulder incised rimsherd (Wedel 1959:115, Figure 7d). Steed-Kisker jars in Nebraska phase sites are both carinate and rounded shoulder, suggesting that contacts lasted through the transition from carinate to rounded shoulder forms.

Steed-Kisker jars are not found on Smoky Hill phase sites. One Smoky Hill phase site did yield meager evidence of Caddoan tradeware. A rim section of Crockett Curvilinear was recovered at 14SA1 (Whiteford or Salina Burial Pit). This pottery type is associated with the Harlan phase (A.D. 900-1200) and Spiro phase (A.D. 1250-1450) in eastern Oklahoma (Wedel 1959:519-520).

Ceramic forms of beakers and water bottles are found on Central Plains tradition sites. Both forms readily appear on Steed-Kisker sites. Water bottles are present on 6 of the 13 Steed-Kisker sites in the study. In Central Plains tradition sites, water bottles show up on two Smoky Hill sites: a bottle in the form of a human effigy at 14PO4 (Budenbender) and a burnished black bottle at 14CY1 (Mugler) (Figure 5d). Beakers are found on 8 of the 13 Steed-Kisker sites, in Nebraska phase sites 25CC1 (Ashland) (Figure 5b) and 25NH3 (Williams), and in Smoky Hill sites 14CY17 (Moore) and 14PO4 (Budenbender) (Figure 5a). Incised designs found on beaker forms at the Ashland site in Nebraska and at the Budenbender and Moore sites in Kansas are similar to designs found on beakers in Steed-Kisker sites. Exotic forms of beakers and bottles may be from areas beyond Steed-Kisker and even beyond the Cahokia area from the lower Mississippi valley or Caddoan areas.

The most often cited example of a tradeware in Central Plains tradition sites is the jar form with shoulder incising of the opposed diagonal motif (Figures 6 and 7). In sites where jars with shoulder incising are found, the opposed diagonal is consistently the only design motif. The opposed diagonal jars show up only on Nebraska and Smoky Hill phase sites but never in Pomona phase sites. Sites have either the opposed diagonal design on jars or the Steed-Kisker designs on jars, but not both, suggesting that Steed-Kisker incised jars and the opposed diagonal incised jars are not contemporaneous.

Spatially, the opposed diagonal jars are found occurring in the Glenwood Locality of Mills County in southwestern Iowa, across the Missouri River in southeastern Nebraska, into north-central Kansas, and as far west as Ottawa

County, Kansas. The southernmost site with opposed diagonal jars is 34KA172 (Uncas) in the Kaw Reservoir in Oklahoma near the Kansas border.

The presence of shell-tempered opposed diagonal jars varies in site ceramic assemblages from a single example to being the dominant ceramic form (Table 3). Sites where the opposed diagonal jar form dominate are 25CC71 (Dodson), 24NH2 (Major), 14GE21 (Miller), 14PO4 (Budenbender), and 34KA172 (Uncas). Sites with opposed diagonal jars cluster in three areas: Nemaha and Cass counties in southwest Nebraska, on the lower Republican and Big Blue drainages in Geary, Riley, and Pottawatomie counties in north-central Kansas, and at the Uncas site in Oklahoma.

At 34KA172 (Uncas) four houses have been salvaged from the eroding waters of Kaw Reservoir (Galm 1979; Vehik and Flynn 1982; Vehik and Ashworth 1983; Vehik and Swenson 1984). All of the houses were similar in style to Central Plains house forms and all contained shell-tempered globular vessels, some with the shoulder incised design of the opposed diagonal. The ceramics at the site have been typed as Coon Creek Incised (Galm 1979). Vehik and Swenson (1984:72) found the ceramics most similar to Uncas Coon Creek Incised to be in 14GE21 (Miller) and 14GE127 (Rush Creek) in the Smoky Hill area, reported by Sperry (1965). Similarities shared are incised designs and general vessel form, but the Uncas vessels are smaller in size and have an equal height and width ratio. While there are similarities and differences, Vehik and Swenson concluded that there is not enough information to place the Uncas site in the Smoky Hill aspect or to consider it a site unit intrusion by a Smoky Hill group. However, they felt that both areas had been influenced by Steed-Kisker.

Origins of the opposed diagonal are possibly found in Steed-Kisker incised designs. The opposed diagonal design is found on one vessel at one Steed-Kisker site in Missouri, 23PL44 in Platte County (Figure 2). This scant evidence may not be totally convincing for origins of the opposed diagonal design in Steed-Kisker. O'Brien (1974) in a seriation of Steed-Kisker incised designs sees change through time from curved line motifs to an angular, straight line motif. A popular motif of the Steed-Kisker incised designs is the "sunburst" of arcs with radiating lines. The general design shifts through time from triple arcs to single arcs and from single zigzags to multiple nestled lines.

Spatially, there was no observed trend of design change from south to north. O'Brien observed that the angular incised opposed diagonal triangular design, found in the Nebraska and Smoky Hills culture areas, could be used as a possible horizon marker. She suggests that the design of alternating triangles could have come out of several of the Steed-Kisker design motifs. Carlson and Steinacher (1981:36) see the opposed diagonal design, which is common throughout Smoky Hill sites, as coming out of designs found in phase 4 of O'Brien's incised design seriation. Vehik and Swenson (1984:78) see the design as being similar to a design in phase 2 of the seriation.

Identifying the source of the shell-tempered ware with opposed diagonal incising is important in settling the debate over whether the ware is traded in from outside or is of local origins. The high number of shell-tempered vessels with opposed diagonal design in Central Plains tradition sites suggests that the ware is manufactured locally. Presence of high numbers in single households would imply local manufacture or the ability of a household to acquire a large portion of its ceramics from outside trade sources. Examination of possible trade sources outside the Central Plains area has not yielded convincing evidence to date.

Analysis of clay bodies through petrographic studies is an avenue to solving the problem of sourcing opposed diagonal ware origins. An earlier unreported petrographic study of shell-tempered sherds with opposed diagonal shoulder incising from 14RY301 (Strafuss) was initiated by Roscoe Wilmeth in 1960. The study, conducted by Harold H. Munger at Kansas State University, reached the conclusion that the ceramic ware was produced from local lower Permian shales with calcite crystals. Munger further observed that ceramic firing had not reached temperatures for calcining of the calcite

(H. H. Munger to R. Wilmeth, 4 July 1960, Archeology Office, Kansas State Historical Society, Topeka).

The ceramic technology of shell tempering clay bodies shows up in both Nebraska and Smoky Hill phase sites, where typical McVey ware or Riley Cord-roughened ware vessels occasionally are made with shell-tempered clay. Shell-tempered clay was also utilized as patching material for drying cracks in Smoky Hill (14OT5) and Nebraska phase (23BN2) vessels (Henning 1967:187). It would appear that, not only were the shell-tempered vessels being exchanged into Smoky Hill or Nebraska households, but also the ideas of preparing and using shell-tempered clay bodies were being transmitted.

The trait of incising shows up in both Nebraska and Smoky Hill phase sites. A reconstructed Nebraska phase vessel with cord-roughened surface and sand tempering has an incised pattern on the shoulder of a single undulating band, similar to designs found in Steed-Kisker (Figure 4b). In Smoky Hill phase sites incising is found at 14SA1 (Whiteford) on a cord-roughened vessel with concentric spirals incised over the entire body surface and at 14OT305 and 14GE600 where single examples of typical Smoky Hill ceramics have attempted incising of the opposed diagonal design on their shoulders. The blending of ceramic traits between the opposed diagonal ceramics and the Central Plains tradition show up at 14OT308 (Markley) and 25SY2 (Cornish), where there are vessels with sand-tempered bodies, collared rims, and opposed diagonal incised shoulders. Sperry (1965) comments on the mixing of ceramic traits at 14GE127 (Rush Creek). The exchange and adaptation of ceramic technology and decorating traits could be the result of both trade and intermarriage among groups. Witty (1983) theorized that the Steed-Kisker vessels found at 14JF303 (Keen) were likely manufactured at the site on the basis of a handle to a shell-tempered ceramic anvil, a tool used in the paddle and anvil technique for thinning and shaping vessel walls. A comparable pottery anvil has been found at 23CL113 (Friend and Foe), a Steed-Kisker site in the Smithville Reservoir in Clay County, Missouri (Calabrese 1969:77-78, Plate 2B).

Jars with opposed diagonal shoulder incising previously have been referred to as tradeware and even called McVey Incised, but the ware has remained untyped. Its overwhelming presence in numerous Nebraska and Smoky Hill phase sites (Table 3) warrants its being named as a ceramic type. In this paper I propose establishing the Majors Opposed Diagonal ceramic type, named for the Majors site (25NH2), the type site in Nemaha County, Nebraska. The shoulder incised design is consistently the same motif of the triangular plats of diagonally incised lines, set in the opposite direction to the neighboring triangular plats, surrounding the vessel shoulder (Figure 6). Vessel form is the globular jar with rounded shoulders and base, opposing strap handles, applied at the rim, lip, and shoulder, which rise above the jar rim, with lip, rim, and handles devoid of decoration (Figure 7). Rim heights vary from low rolled to outflaring direct rims. Surface treatment is smoothed and usually burnished; however, there are occurrences of smoothed-over cordmarking. The clay body is tempered with crushed mussel shell, often coarse and abundant. Shell tempering is also found with amounts of sand and grog temper, maybe the result of using crushed sherds as tempering agents. Of nine known restored examples of Majors Opposed Diagonal jars, all are moderate to large in size. The smallest jar is 17 cm in height (Figure 7b), and the largest is 32 cm in height (Figure 7a). The average vessel is 24 cm in height and 26 cm in width, and the rim opening is 14 cm in diameter.

Radiocarbon dates from Steed-Kisker sites were compared with dates from Central Plains tradition sites with Majors Opposed Diagonal ceramics. Five Steed-Kisker sites with 19 radiocarbon dates have a range of A.D. 690-1315 with a mean date of A.D. 1100 (Table 4). Nine of the dates fall between A.D. 1000 and 1250, the time period in which O'Brien (1993) places Steed-Kisker. Four Nebraska phase sites with Majors Opposed Diagonal ceramics have four radiocarbon dates, ranging from A.D. 1040 to 1400 with a mean date of A.D. 1206 (Table 5). The five Smoky Hill sites that have Majors Opposed Diagonal yielded 13 radiocarbon dates, ranging from A.D. 1030 to 1540 with a mean date of A.D. 1221 (Table 6). Eight of the dates fall between A.D. 1100 to 1300. The Uncas site (34KA172) with similar ceramics to Majors

Opposed Diagonal has nine radiocarbon dates and two archaeomagnetic dates (Table 7). All of the dates except three radiocarbon dates fall generally later, between A.D. 1300 and 1400. The range of radiocarbon dates of Steed-Kisker and sites with Majors Opposed Diagonal overlap, which would support their contemporaneity. Examination of mean dates from the date series shows a mean date of A.D. 1100 for Steed-Kisker and a date of early A.D. 1200s for the sites with Majors Opposed Diagonal.

While the radiocarbon dates do not show a clear temporal separation, cross dating of the ceramics does. On Central Plains tradition sites where Majors Opposed Diagonal jars are found, Steed-Kisker jars are never found in association. However, the Majors Opposed Diagonal motif occurs on only one Steed-Kisker site. Another connection between Major Opposed Diagonal and Steed-Kisker is the jar vessel form of the rounded shoulder and opposing strap handles. The forms are similar, if not identical. The carinate jar form found in Steed-Kisker is not found with the opposed diagonal jars.

Long distance trade is suggested by tradeware forms of bottles and beakers. Bottles and beakers appear to be traded in from Cahokia/lower Mississippi valley. Association with both Steed-Kisker and the later dating Majors Opposed Diagonal suggest a long-term trade connection among Steed-Kisker, Central Plains tradition, and the Mississippian and Caddoan areas that continued after the Steed-Kisker occupation in the Kansas City area. Presence of bottles and beakers in ceramics assemblages of both Steed-Kisker and Majors Opposed Diagonal also suggest a continuation between Steed-Kisker and the makers of Majors Opposed Diagonal ceramics. The presence of bottles and beakers in Steed-Kisker and with Majors Opposed Diagonal suggests that these groups were middlemen in exchanges between the Central Plains and Mississippi valley.

In conclusion, the most prevalent ceramic in Nebraska and Smoky Hill phase sites, previously presumed to be tradeware, is the Majors Opposed Diagonal jar. The type is widespread and found in varying numbers from site to site, from a single vessel in a Nebraska or Smoky Hill household ceramic assemblage to the dominant ceramic type with Nebraska or Smoky Hill ceramics as a minority. This suggests that specific groups manufactured and exchanged Majors Opposed Diagonal locally. They were contemporaneous and living in the same localities as Nebraska and Smoky Hill populations. Majors Opposed Diagonal jars cannot be cross dated with Steed-Kisker jars on Nebraska or Smoky Hill phase sites, suggesting that they post-date Steed-Kisker. However, the Majors Opposed Diagonal jar form and design appear to have origins in Steed-Kisker, possibly representing Steed-Kisker populations that after A.D. 1250 moved out of their core area in northwest Missouri and into southeastern Nebraska and northeast-central Kansas. Real tradeware on Central Plains tradition sites can be attributed to Steed-Kisker, Cahokian/lower Mississippi, and limited Caddoan sources.

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Table 1. Sites in Study.

Site Number	Site Name	Cultural Affiliation	Tradeware
14JF366		Steed-Kisker	
23BN2-A		Steed-Kisker	
23BN2-B		Steed-Kisker	
23CL106		Steed-Kisker	
23CL108	Reeves Mound	Steed-Kisker	
23CL109		Steed-Kisker	
23PL4	Young	Steed-Kisker	
23PL13	Steed-Kisker	Steed-Kisker	
23PL16	Coons	Steed-Kisker	
23PL17		Steed-Kisker	
23PL41		Steed-Kisker	
23PL44		Steed-Kisker	
23PL80		Steed-Kisker	
23NH3	Williams	Nebraska	Beaker
25CC1	Ashland	Nebraska	Steed-Kisker Jars & Beakers
25CC16	Baker	Nebraska	Steed-Kisker Jar
25CC18	Patton	Nebraska	Steed-Kisker Jar
25CC71	Dodson	Nebraska	Opposed Diagonal Jars
25CC120		Nebraska	Opposed Diagonal Jar
25NH2	Majors	Nebraska	Opposed Diagonal Jars & Beaker
25SY2	Cornish	Nebraska	Opposed Diagonal Jars
25TY1		Nebraska	Opposed Diagonal Jar
14CY1	Mugler	Smoky Hill	Opposed Diagonal Jars & Bottles
14CY17	Moore	House 1 Smoky Hill House 2 Smoky Hill	Opposed Diagonal Jar Opposed Diagonal Jar & Beaker
14GE21	Miller	Smoky Hill	Opposed Diagonal Jars
14GE127	Rush Creek	Smoky Hill	Opposed Diagonal Jars
14GE600		Smoky Hill	Opposed Diagonal Jars
14MH42	DeWalt	Smoky Hill	Opposed Diagonal Jars

Table 1. (continued)

14OT5	Minneapolis	House 1 Smoky Hill House 2 Smoky Hill	Opposed Diagonal Jar Opposed Diagonal Jar
14OT308	Markley	Smoky Hill	Opposed Diagonal Jar
14PO4	Budenbender	Smoky Hill	Opposed Diagonal Jars, Beakers, & Bottle
14RY301	Strafuss	Smoky Hill	Opposed Diagonal Jars
14RY401		Smoky Hill	Opposed Diagonal Jars
14SA1	Salina Burial Pit	Smoky Hill	Caddoan Bowl
14JF303	Keen	Pomona	Steed-Kisker Jars
14MM551	Shay	Pomona	Steed-Kisker Jars
14OS314	Harsh	Pomona	Steed-Kisker Jar

Table 2. Steed-Kisker Phase Sites.

Site Number	Site Name	Jar undecorated	Jar decorated	Bowls	Beaker	Bottles
14JF366		10	4	1	1	1
23BN2-A		29	13	7		3
23BN2-B		110	70	13	8	9
23CL106			1			
23CL108	Reeves Mound	3	2	2		
23CL109		12	1	1		
23PL4	Young	16	37	10	5	3
23PL13	Steed-Kisker	31	103	28	3	5
23PL16	Coons	12	14		1	
23PL17		3				1
23PL41			4			
23PL44		10	13	3	2	
23PL80		7	3			

Table 3. Sites with Majors Opposed Diagonal Jars and Other Vessels Forms.

Site Number	Site Name	Total Vessel Count	Jars	Bowls	Beakers	Bottles	Shell-Tempered Vessels	Shell Jars undecorated	Shell Jars Majors Opposed Diagonal
14CY1	Mugler	72	69	1		2	7	3	2
14CY17 House 1 House 2	Moore	 43 16	 41 13	 2 2	 1		 7 2	5	 2 1
14GE21	Miller	70	68	2			58	45	13
14GE127	Rush Creek	48	46	2			20	12	8
14GE600		88	87	1			22	5	17
14MH42		20	19	1			4	3	1
14OT5 House 2 House 8	Minneapolis	 55 51	 53 46	 2 5			 1 1		 1 1
14OT308	Markley	58	57	1			2		2
14PO4	Budenbender	47	41	1	3	2	26	12	8
14RY301		2	2				2		2
14RY401		116	113	3			19	5	14
25NH2	Majors	38	35	2	1		33	23	7
25CC71	Dodson	64	56	8			39	10	29
25CC120		1	1				2	1	1
25SY2	Cornish	4	4				4		4
25TY1		1	1				2	1	1

Table 4. Steed-Kisker Sites Radiocarbon Dates, Uncorrected.

Site Number	Site Name	Sample Identification	Date
23CL108	Reeves Mound	UGa - 1149	A.D. 955±70
		UGa - 1200	A.D. 1030±70
		UGa - 1201	A.D. 970±65
23CL109	Hulse	UGa - 1445	A.D. 1085±70
		UGa - 1446	A.D. 690±90
		UGa - 1447	A.D. 1115±75
		UGa - 1448	A.D. 1255±100
23PL4	Young	M - 2346	A.D. 1290±100
		M - 2347	A.D. 1070±110
23PL13	Steed-Kisker	M - 1397	A.D. 860±110
		M - 1395	A.D. 1000±110
		M - 1395a	A.D. 1110±110
		M - 1398	A.D. 1210±100
		M - 1399	A.D. 1230±100
		Gak - 590	A.D. 1080±80
23PL16	Coons	UGa - 379	A.D. 770±110
		UGa - 392	A.D. 1315±60
		UGa - 466	A.D. 1305±60
		UGa - 467	A.D. 905±60

Table 5. Nebraska Sites Radiocarbon Dates, Uncorrected.

Site Number	Site Name	Sample Identification	Date
25CC1	Ashland	Si - 623	A.D. 910±100
25CC17 *	Theodore Davis	M - 1367	A.D. 1245±55
25CC71 *	Dodson	NWu - 66	A.D. 1140±80
25NH2 *	Majors	Si - 619	A.D. 1040±140
25SY2 *	Cornish Meadows	Si - 622	A.D. 1400±100

* sites with Majors Opposed Diagonal ceramics

Table 6. Kansas Sites Radiocarbon Dates, Uncorrected.

Site Number	Site Name	Sample Identification	Date
14GE21 *	Miller	Si - 230	A.D. 1030±90
		Si - 231	A.D. 1180±80
		Si - 232	A.D. 1540±100
14GE600 *	Witt	UGa - 824	A.D. 1250±75
		UGa - 825	A.D. 1355±60
		UGa - 826	A.D. 1115±65
14JF303	Keen	Gak - 1736	A.D. 1600±80
		Gak - 1737	A.D. 1400±110
14OT5 *	Minneapolis	Beta - 16479	A.D. 1220±70
		Beta - 16480	A.D. 1270±70
14PO4 *	Budenbender	M - 869	A.D. 1190±150
14RY401 *		Gak - 1446	A.D. 1630±100
		Gak - 1447	A.D. 1690±70
		Gak - 1448	A.D. 1580±70
		Gak - 1449	A.D. 1630±80
		UGa - 1450	A.D. 1700±70
		UGa - 465	A.D. 1090±60
		UGa - 827	A.D. 1280±60
		UGa - 828	A.D. 1140±60

* sites with Majors Opposed Diagonal ceramics

Table 7. Uncas Site, Oklahoma, Radiocarbon Dates, Uncorrected, and Archaeomagnetic Dates.

Feature	Sample Identification	Date
House I	Tx - 3512	A.D. 1064±60
	Tx - 3513	A.D. 817±60
	Ou - 1742 *	A.D. 1325±24
	Ou - 1743 *	A.D. 1185±23
House II	Beta - 1838(1)	A.D. 189±100
	Beta - 1838(2)	A.D. 1358±70
House III	Beta - 7481	A.D. 1390±50
	Beta - 7482	A.D. 1480±50
House IV	Beta - 10633	A.D. 1360±80
	Beta - 10634	A.D. 1300±80
	Beta - 10635	A.D. 1340±70

* archaeomagnetic dates

Figure 1. Steed-Kisker ceramics from 23PL4 (Young). (Measurements indicate maximum widths.)
a. Effigy bowl (#s 1924-105-15 and 1656-55) - 13 cm
b. Water bottle (#3404) - 12 cm
c. Jar (#7919) - 14 cm
d. Jar (#6300-15) - 17 cm
e. Jar (#3802) - 14 cm

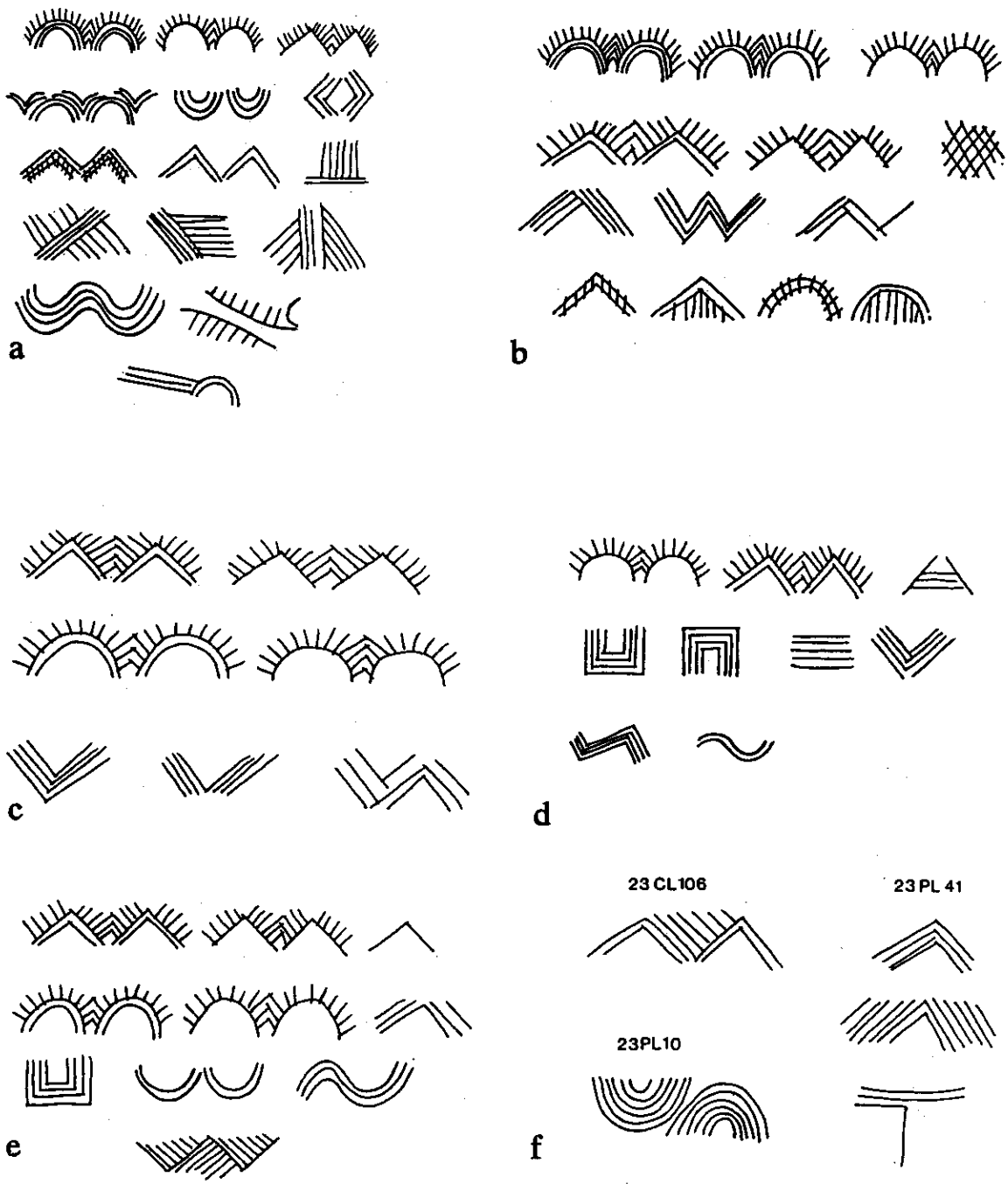

Figure 2. Partial and complete Steed-Kisker shoulder incised designs from rimsherds and restored jars.

a. 23BN2
b. 23PL4
c. 23PL13
d. 23PL16
e. 23PL44
f. 23CL106, 23PL41, 23PL10

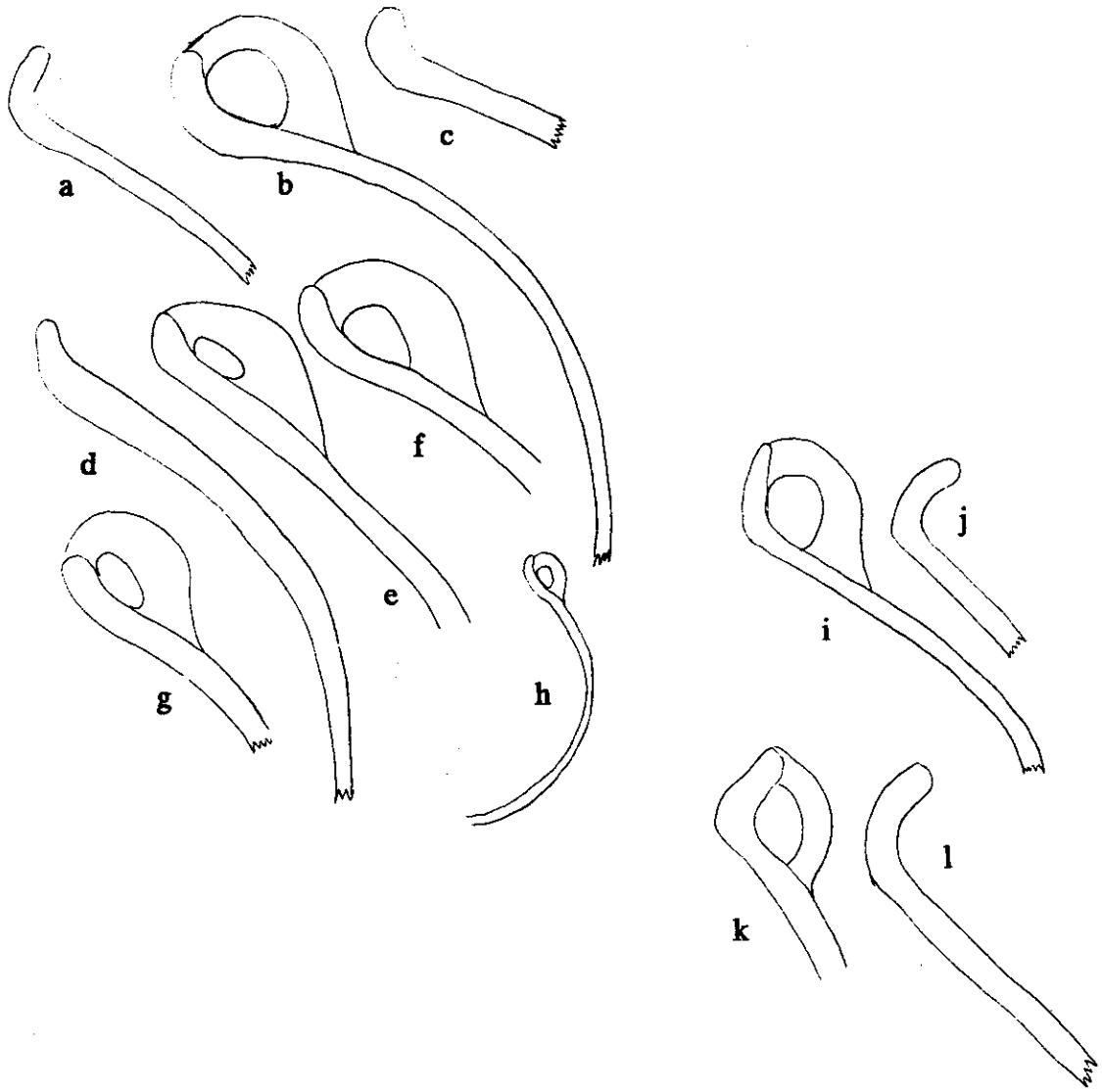

Figure 3. Rimsherd profiles from Steed-Kisker and Majors Opposed Diagonal vessels. (Profiles are 50% actual size.)

a. Specimen #5247 from 14GE600
b. Specimen #12040 from 14CY1 (Mugler)
c. Specimen #12039 from 14CY1 (Mugler)
d. Specimen #10, 10-77 from 14PO4 (Budenbender)
e. Specimen #59-166, 103, 70 from 14PO4 (Budenbender)
f. Specimen #5493 from 14GE600
g. Specimen #1045 from 14RY401
h. From 14GE21 (Miller) (scale unknown)
i. Specimen #NH2/3 from 25NH2 (Majors)
j. Specimen #1/14 from 25NH2 (Majors)
k. Specimen #1716 from 25CC71 (Dodson)
l. Specimen #9118 from 25CC71 (Dodson)

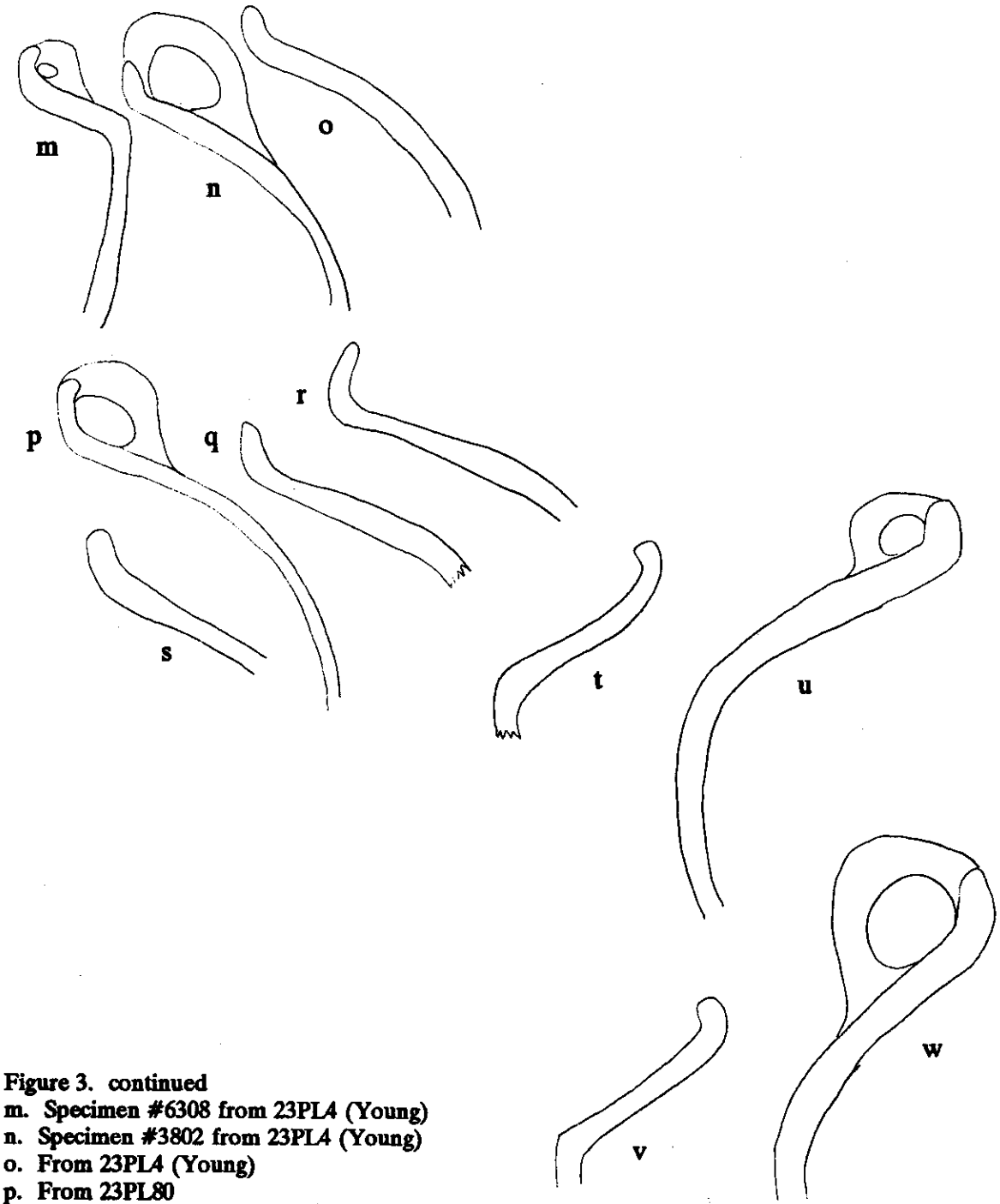

Figure 3. continued
m. Specimen #6308 from 23PL4 (Young)
n. Specimen #3802 from 23PL4 (Young)
o. From 23PL4 (Young)
p. From 23PL80
q. From 23PL16 (Coons)
r. From 23PL16 (Coons)
s. Specimen #3680 from 23PL80
t. Specimen #111/381491 from 23PL13 (Steed-Kisker)
u. Specimen #121/381470 from 23PL13 (Steed-Kisker)
v. Specimen #111/381491 from 23PL13 (Steed-Kisker)
w. Specimen #169/381397 from 23PL13 (Steed-Kisker)

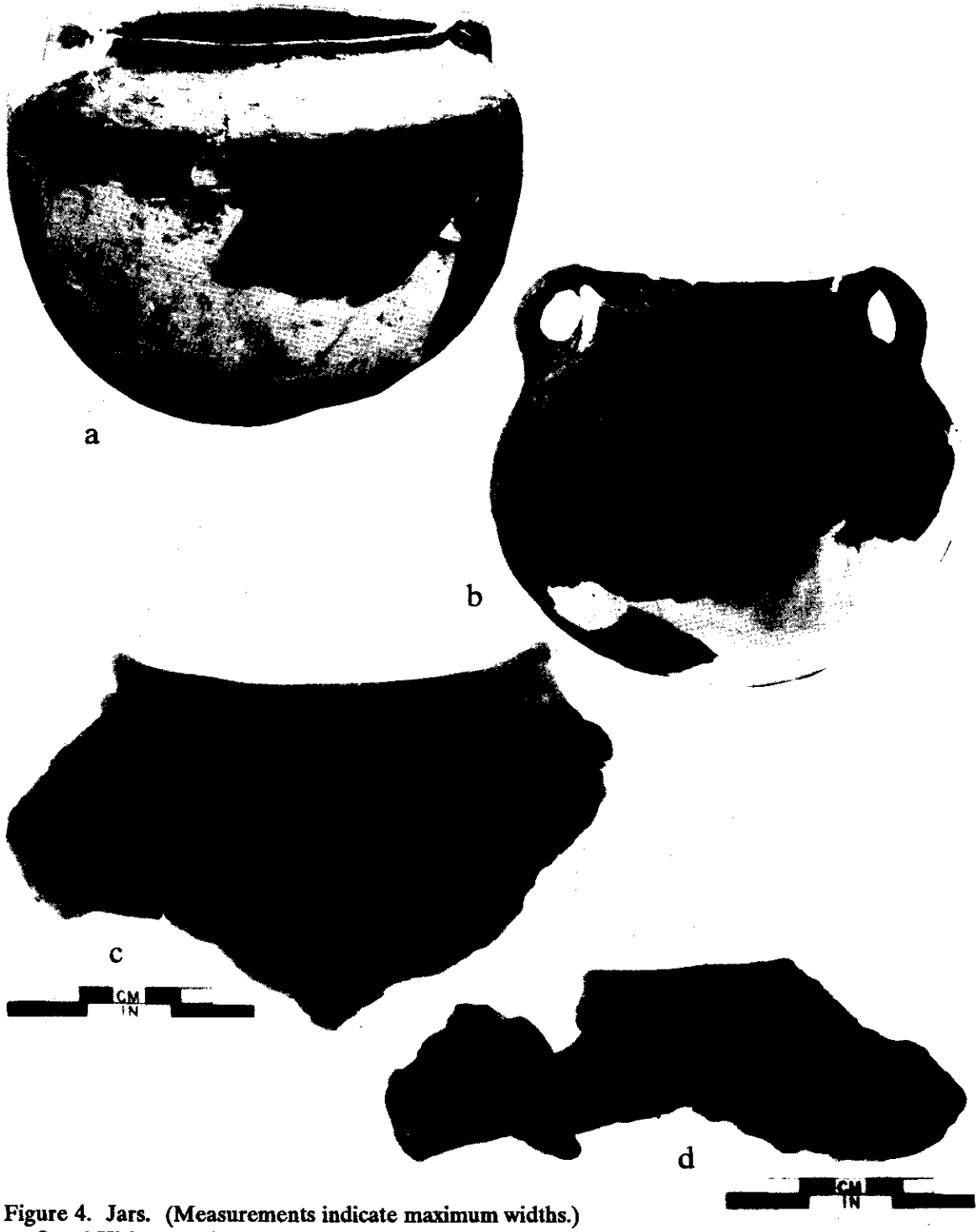

Figure 4. Jars. (Measurements indicate maximum widths.)
a. Steed-Kisker specimen #2444 - 30 cm from 25CC16
b. Nebraska Phase specimen #4364-314 - 17 cm from Zimmerman Collection
c. Steed-Kisker specimen #3499 - 18 cm from 14JF303 (Keen)
d. Steed-Kisker specimen #3638 - 17 cm from 14JF303 (Keen)

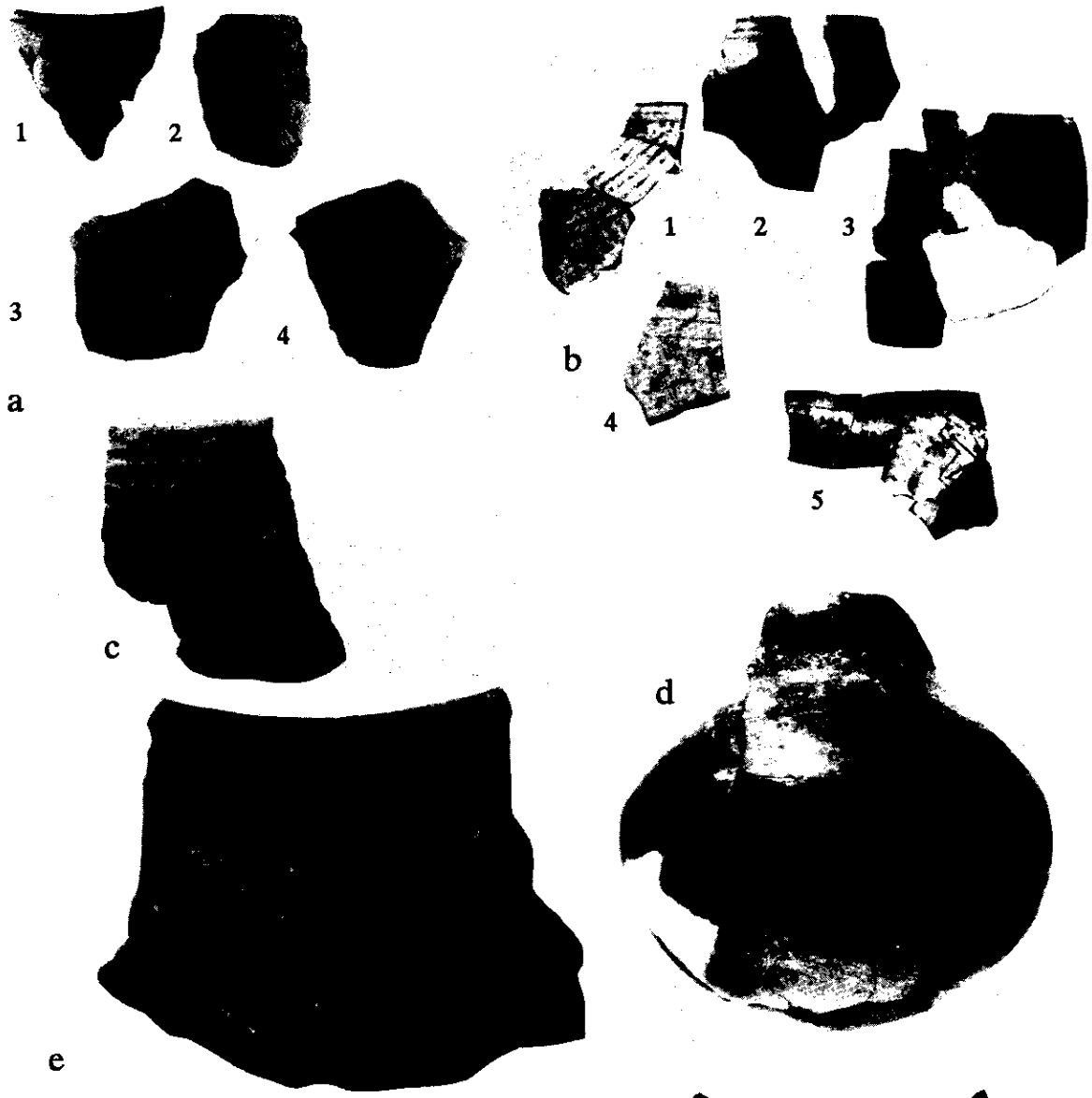

Figure 5. Beakers, bottle, and jars.
(Measurements indicate maximum widths.)

a. Beakers from 14PO4 (Budenbender)
    1. Specimen #s 454-104 and 454-119 - 6 cm
    2. Specimen #s 95-114 and 24 - 4 cm
    3. Specimen #325 - 6 cm
    4. Specimen #38-188 - 6 cm
b. Beakers from 25CC1 (Ashland)
    1-3. Specimen #483 - 3-12 cm
    4. Specimen #13 - 5 cm
    5. Specimen #5 - 10 cm
c. Steed-Kisker beaker (#s 6300-13 and 14) - 5 cm from 23PL4 (Young)
d. Mississippian or Caddoan bottle (#1038) - 17 cm from 14CY1 (Mugler)
e. Steed-Kisker jar (#30) - 7 cm from 25CC1 (Ashland)
f. Steed-Kisker jar (#164) - 24 cm from 14OS314 (Harsh)

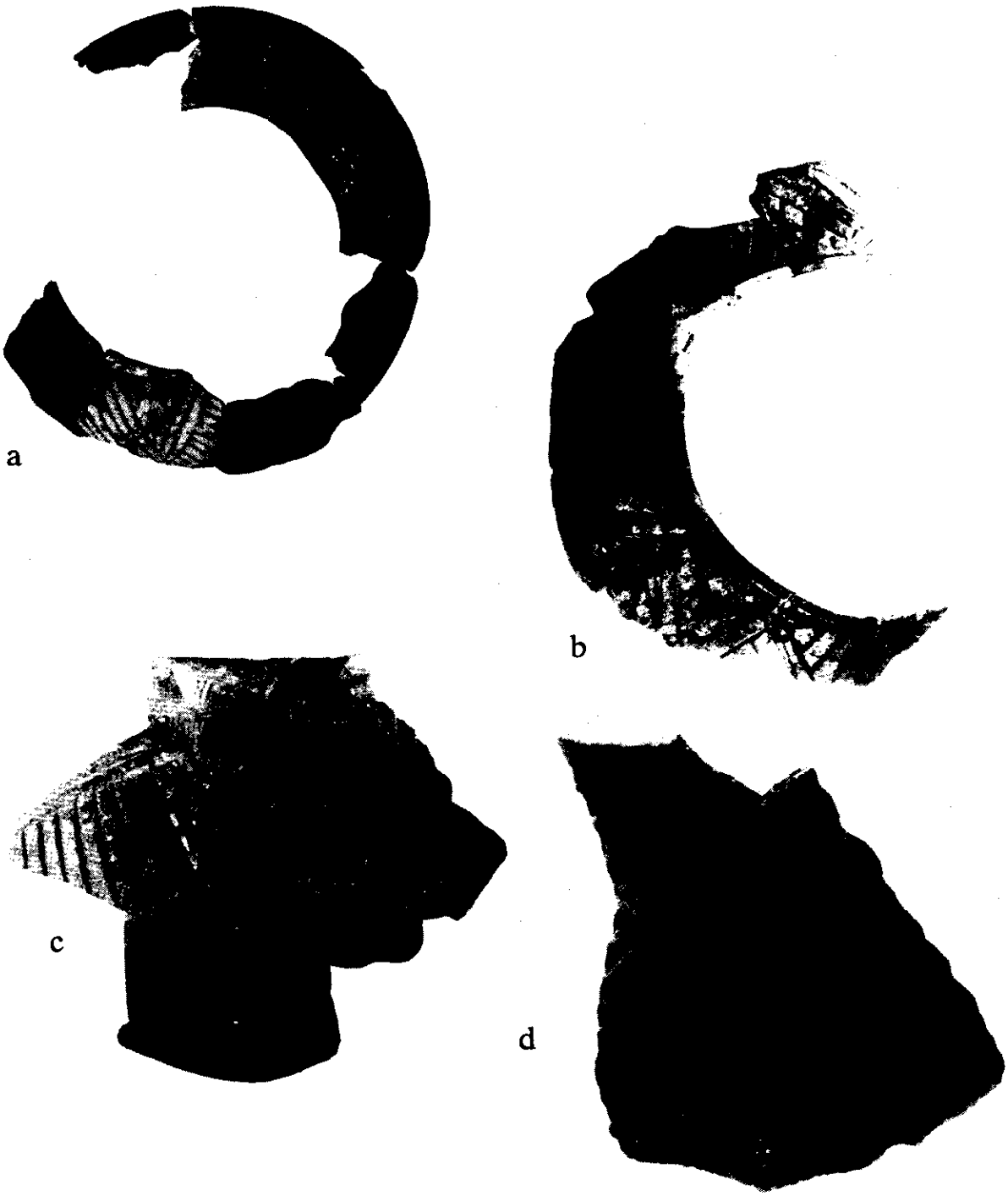

Figure 6. Majors Opposed Diagonal jars. (Measurements indicate maximum widths.)
a. Specimen #X31, F292, 1Q360 - 28 cm from House 8 at 14OT5 (Minneapolis)
b. Specimen #s 10, 10-77, 10-164, 27, 44-165, 114, 102-105, 103-107 - 30 cm from 14PO4 (Budenbender)
c. Specimen #3 - 23 cm from 25NH2 (Majors)
d. From 25NH2 (Majors)

Figure 7. Majors Opposed Diagonal jars. (Measurements indicate maximum widths.)
a. Specimen #12031-1031 - 38.5 cm (diameter) from 14CY1 (Mugler)
b. Specimen #7722 - 16 cm from 25CC120
c. Specimen #7127 - 36 cm from 25CC71 (Dodson)
d. Specimen #12041 - 22 cm from Schultz Collection from 14CY1 (Mugler)

AN AMATEUR'S REPORT ON PREHISTORIC SHORELINE SITES AT PERRY LAKE, 1986-1991

Daryl Walters

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This is an amateur report on findings of a 1986-1991 survey of prehistoric cultural resources in the lower Perry Lake region, carried out in cooperation with the U.S. Army Corps of Engineers and the Kansas State Historical Society. After 1991 the project was a team effort with many people contributing. These summarized findings might be helpful to anyone interested in the general subject and in particular to those with special interest, experience, or expertise in the Grasshopper Falls phase of the Plains Woodland period in the Delaware valley.

Amateur archeologists can locate and report information for professionals to use, sort out, interpret, and form conclusions. The future for amateurs in anthropology is a bright one. With tightening budgets the necessary role of the amateur is expanding. Many projects could not be accomplished without the assistance of volunteers and paid amateur workers. An interested person does not have to have years of experience or an academic background to participate; there is plenty of interesting work available through your local Kansas Anthropological Association chapter.

It would be good if all salvage work could be done by those professionally trained, but priorities, budget restraints, and time available rarely permit the optimal situation. Salvaging artifacts must be done when they appear; the interpretation can be later. Misinterpretation is always repairable, but loss of information is permanent.

PROJECT BACKGROUND

Perry Lake is in northeastern Kansas in the western half of Jefferson County on the Delaware River drainage. The dam is located about five miles from the Delaware's confluence with the Kansas River and backs water nearly to Valley Falls.

Since 1988 the author has been a volunteer Cultural Resource Investigator with the U.S. Army Corps of Engineers. New and previously recorded sites were visited periodically, observations were made on site conditions, and diagnostic artifacts were collected. Copies of notes were filed with the local Corps office and the Kansas State Historical Society (KSHS) Archeology Office. When individuals locate cultural material on federal land, it is the property of the federal government. By agreement of all parties, artifacts recovered during this study are housed at the KSHS.

In performing the fieldwork and in preparing this report, there has been a considerable amount of time necessarily invested in studying the available reports and the data in maps. A large amount of data has been accumulated in over 25 years of ongoing research and reveals information in greater depth now, but the basic lifestyle and settlement patterns remain the same as when the first reports were written. The following are quotes from two of the early reports (Reynolds 1979; Witty 1983). In the writer's opinion they tell a large part of the story.

> The Perry Lake region has received extensive and ongoing formal and informal cultural resource studies. Initially, this was in the form of appraisal surveys, testing, and investigative excavations by the Kansas State Historical Society and the Museum of Anthropology, University of Kansas in cooperation with the National Park Service. These formal investigations by the institutions were preceded and later supplemented by the activities of amateur archeologists. Of particular importance was Milton

Reichart of Valley Falls (Witty 1983:14).

First, while the individual Grasshopper Falls Phase sites are small, the total number of such sites in the Delaware valley is large. In fact, there are more Grasshopper Falls Phase sites identified in the valley than there are of all other cultural units taken together. Furthermore, the evidence from four excavated Grasshopper Falls Phase sites and surface evidence from well over a hundred additional sites attributable to this phase indicates a remarkable degree of uniformity in artifact content and structural features. It seems obvious that either the Grasshopper Falls Phase peoples occupied the Delaware valley for a long period of time or they were in fairly large numbers for a shorter period.

. . .

Perhaps then the Grasshopper Falls Phase inhabitants can be viewed as hunters and intensive collectors who had developed their primary forest efficiency to such a degree that they were able to spread up and down the Delaware valley in small population clusters.

In any event, it seems clear that the Grasshopper Falls Phase settlement of the Delaware valley was quite successful and may indeed represent the most successful adaptation of a prehistoric people to this particular locality.

. . .

For whatever reasons, the Grasshopper Falls Phase people seem to have possessed a greater carrying capacity in the Delaware valley than did the Kansas City Hopewell peoples who presumably preceded them or the Village Farming Tradition people who followed them (Reynolds 1979:79-80).

The inferred subsistence base is hunting and gathering and the settlement pattern consists of small isolated clusters of nuclear households or extended families occupying terraces adjacent to secondary drainages. A radiocarbon date of A.D. 760±90 from 14JF331 suggests the temporal placement of the [Grasshopper Falls] phase between A.D. 500 and 1000 (Witty 1983:15).

The Pomona focus has been hypothesized to have developed from the local Plains Woodland. The recurring association of Grasshopper Falls phase and Pomona materials in the same context is important in that suggested relationship (Witty 1983:ii).

These cultures were not in isolation as can be noted by the presence of artifacts, primarily ceramics from identified cultures in adjacent areas. For the Plains Woodland, this is the finding of Kansas City Hopewell sherds on the surface of some Grasshopper Falls phase sites. While obviously not in good stratigraphic context, there is a presence of this Hopewellian group in the valley either directly, by trade, or by imitation (Witty 1983:219).

From reading the earlier reports it is evident that many archeologists support the view that the genealogy of the prehistoric cultures went in some manner from Kansas City Hopewell to Grasshopper Falls phase to Pomona variant in northeast Kansas over about 1,000 years. Much is known about all three cultures, but more needs to be known about the transitions between the cultures.

The author has tried to condense a considerable amount of field work into one report that is as interesting and creditable as possible. There has not been an abundance of new information discovered in this study. On the contrary almost all of the findings tend to support what was already stated in the early reports. This is a credit to those who did the early field work and the writing.

STUDY AREAS

The areas chosen for the study were the Lakewood Hills-Longview areas on the east and the Rock Creek area on the west side of Perry

Lake (Figure 1). There are 18 recorded sites in the Lakewood Hills-Longview areas and 10 recorded sites in the Rock Creek area. The total of 28 sites is less than 15 percent of the recorded prehistoric sites in the lake region. Although the number is not large, it is probably somewhat representative of the Delaware valley.

The report by Environmental Systems Analysis, Inc. (Schmits 1987), written for the U.S. Army Corps of Engineers in 1987, lists the prehistoric components as 80 percent Plains Woodland, 14 percent Plains Village, and 6 percent Archaic for the entire lake region. In this study group of 28 sites, only 3 Plains Village and no Archaic components could be identified positively. A few projectile points were found that could be Archaic, but supporting evidence was lacking. Several other points possibly could date to the Early Ceramic period (A.D. 1 to 500), but they also could be later. As a result it is believed that about 90 percent of the artifacts found would be within the Grasshopper Falls phase range.

SITE DESCRIPTIONS

WEST SIDE

South Cluster

All of the sites in the south cluster were badly damaged before being located. Site 14JF497 had the least amount of damage, but it also could have lost a large amount of its total area. The project was well underway when 14JF1415 and 14JF1416 were located. The two sites are side by side on low terraces very close to Rock Creek. They were discovered during very low water levels and are inundated now.

Sites 14JF497, 14JF498, 14JF1402, 14JF1415, and 14JF1416 are known to be habitations. Site 14JF499 is primarily a tool making site. Areas A, B, and C are unnumbered localities that are nearly destroyed and have little potential, but they do remain part of the settlement pattern.

Site 14JF497 is on a small tributary of Rock Creek very close to its confluence with Rock Creek near a bend in the larger stream. The small stream drains from the south for about 1.5 miles. It runs very little water until about 300 meters from Rock Creek. At this point there is a large system of springs. Some are inundated by the lake at 887 feet above mean sea level (MSL). Others flow from another smaller stream to the west. The springs produce a fast moving flow, 3 inches deep by 12 inches wide. In 1960 the land was probably pasture as there were large trees on the site. One large stump remains under water at pool level. Recording took place in 1987 at a time of serious drought. Upper Rock Creek did not run any water into the lake for months during this period.

Mention is made of the springs because they are within the cluster of sites. It is unknown if the springs had anything to do with the prehistoric habitation. This supply of quality water in a settlement area would certainly make it much more attractive for campsites.

It was fortunate that 14JF497 was located early, as it was being uncovered by erosion and a considerable number of artifacts were salvaged. Erosion exposed two heavy concentrations of artifacts. The areas were designated Area 1 (north) and Area 2 (south). Area 1 was much larger and encompassed four circular concentrations of heated rock debris, identifiable as hearths or shallow pits. There were two concentrations that could be identified in Area 2. The artifacts found are more than 1,000 pottery sherds, 70 small and 30 large and medium projectile points and pieces, 80 stone tools of other types, a very small amount of daub, and a large amount of lithic and rock debris.

Site 14JF498 is a habitation site, located approximately 400 meters south of 14JF497. It is at the highest elevation of any of the sites in this report at 15 to 18 feet above pool level at mean sea level. Although badly damaged by erosion, it has a small area that could have intact deposits.

Site 14JF499 is located 100 meters north-northwest of 14JF497 across the cove on a terrace that overlooked Rock Creek. Artifacts include one sherd, one point, and a large amount of lithic debris. It is classified as a tool-making site.

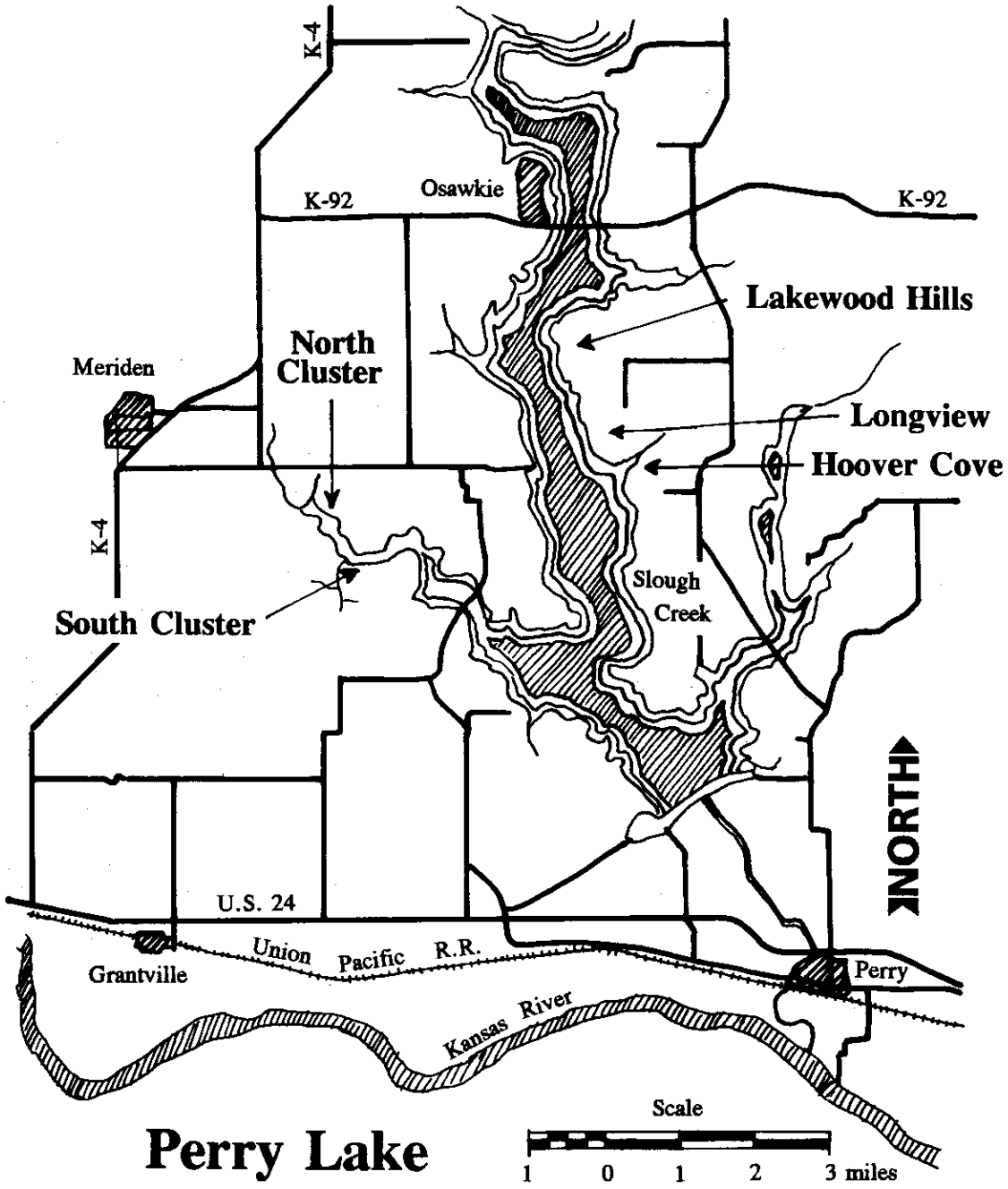

Figure 1. Map of Perry Lake area, showing study areas.

Site 14JF1402 is on the west bank of Rock Creek, situated 200 meters north of 14JF499. It is a habitation site with sherds, one large point, rock debris, and hammerstones. It is badly damaged and holds little potential for intact deposits.

Site 14JF1415 is on the east side of Rock Creek across from 14JF1402 on a low terrace overlooking the creek channel. The site is narrow and stretches along the creek channel for 100 meters. It is inundated by the lake at 889 feet above MSL.

Twelve pottery sherds are mostly from smaller jars that are similar to Pomona ware. This is the only site in the study group that has more sherds similar to Pomona ware than sherds similar to Grasshopper Falls phase ware. No projectile points were found, and more evidence is needed to classify the site as either Plains Village or Plains Woodland.

Site 14JF1416 is across Rock Creek, 150 meters north-northeast of 14JF497. This small site is on a low terrace that extends from the east shoreline and is inundated at 888 feet above MSL.

Artifacts were concentrated, although the land has probably been farmed many years. Three pottery sherds were found that are similar to those from 14JF1415. One small to medium corner-notched point, two sandstone abraders, one hammerstone, three fragments of different mullers, lithic debris, and heated rock debris were present.

Area A is south of 14JF497 about 400 meters across a small stream from 14JF498. The site is mostly destroyed by erosion. On site was a large rim sherd that has a scalloped lip. The vessel is not typical Grasshopper Falls phase ware but looks like a much smaller jar--more like Pomona ware. The sherd was in poor condition and could not be positively identified.

Area B is 200 meters south of 14JF497 and is probably a habitation site with sherds, bone, and rock debris. There is little chance for intact deposits.

Area C, beginning 100 meters east of 14JF497, has one point, two scrapers, and lithic debris. It is classed as a tool-making site. There is also historic debris, probably from dumps along the old road.

North Cluster

The north cluster is on a bend of Rock Creek about half a mile north of 14JF497. Artifacts were lightly scattered on the surface, but all of the sites have good potential for intact deposits. This area has been sheltered from wave action, and there is not nearly as much damage as in the south cluster. Also, there are probably undiscovered sites nearby.

Site 14JF1401 is on the west side of Rock Creek and held a light scattering of debitage and heated rock debris.

Site 14JF1404 is the northernmost site in the cluster on the east side of Rock Creek. It had one utilized flake, a light scatter of rock debris, and one hearth or pit eroding from a cutbank.

Site 14JF1405 is just to the southeast across a small drainage. It had two points, debitage, and a hearth or pit eroding from a cutbank.

Site 14JF1406 contained sherds, one large point, one mano, debitage, and heated rock debris. The site is directly across the creek from 14JF1401.

EAST SIDE

There are two parts to the survey on the east side. The Hoover Cove cluster includes eight sites on a small tributary in and around Hoover Cove. The Lakewood Hills-Longview cluster is a group of 10 sites along the present shoreline of Lake Perry from midway of the Longview area approximately 1.5 miles north to the north line of the Lakewood Hills area. At the time of the prehistoric habitation the river channel was probably close to the present shoreline.

Hoover Cove Cluster

Site 14JF3 had a light scattering of lithic debris when it was recorded by Jack Schock in

1965. It was likely a tool-making site and is now destroyed.

Site 14JF24 was recorded as Central Plains tradition by Bruce Jones in 1968. It has been inundated since impoundment but remains a part of the settlement pattern.

Site 14JF119 was recorded as a special purpose site by Steven Bozarth and John Parisi in 1985. Artifacts then included hammerstones and debitage. In 1989 the author found the same type of artifacts. The primary purpose must have been stone tool making.

Site 14JF467 was recorded as a habitation site by Reichart in 1976. There was a considerable amount of soil, either left or washing in. It is unknown if there are intact deposits. In December 1990 there were sherds, a two-sided metate, debitage, and heated rock debris. In 1991 artifacts were still surfacing.

Site 14JF469 is on a point of land between two small streams very close to the Delaware River. It was recorded by Reichart in 1976. It has a prehistoric component, and this same land was later chosen for a farmstead. It is destroyed as far as intact deposits are concerned, but it did extend much further out into the lake. While surveying in 1989, when the lake was at 887 feet above MSL, there were artifacts as far out as the author could go.

Artifacts include the point of a conoidal jar and several sherds that do not appear to be typical Grasshopper Falls ware. This multicomponent site has probably been inhabited many times. In late 1991, while the lake was at 886 feet above MSL, the author checked the site and found 40 sherds, including one smooth rim with wide scallops on the lip. The sherd has not been identified.

Site 14JF472 is now destroyed. Nothing was found on this site. In 1972 Reichart found a moderate amount of artifacts on this site and recorded it.

Site 14JF1407 was recorded as a habitational site by the author in 1988. It can be reached when the lake is at pool level or lower. The site may have some potential for intact deposits. Artifacts include sherds, a large point, a mano, and rock debris.

Site 14JF1408, recorded by the author in 1988, has a historic and a prehistoric component. It is a habitation site with artifacts, including sherds, two points, debitage, and rock debris. The site can be reached only when the lake level is 887 feet above MSL or lower.

Lakewood Hills-Longview Cluster

Evidence indicates that a large amount of prehistoric activity occurred along this two miles of shoreline. Sites 14JF451, 14JF452, 14JF464, and 14JF486 are side by side on a gently sloping terrace overlooking the river valley, a perfect place for campsites. Now the lake has claimed them, and there is little chance of future potential.

Sites 14JF450, 14JF477, and 14JF473 are situated side by side and occupy about 400 meters of shoreline south of the chain mentioned above. All of the artifacts from these sites appear to be typical Grasshopper Falls phase. This is the area where it is rumored that many artifacts were picked up by collectors in the 1960s.

Sites 14JF462 and 14JF468 are the southernmost pair in the Lakewood Hills-Longview cluster.

Site 14JF450 is west of Lakewood Hills near the boat ramp cove. It is one of a group of three sites (14JF450, 14JF477, and 14JF473). Both in 1988 and 1991 there were sherds, debitage, and other rock debris.

Site 14JF451 was covered with silt in 1988 and had completely uncovered in 1991. The author found a large square-stemmed point in 1988 but nothing in 1991.

Site 14JF452 is on the south point at the confluence of a small drainage, now a cove. In 1988 the site was covered with 1 to 1.5 feet of redeposited silt. In 1991 the silt had washed away, leaving bare, sterile soil and some concentrations of rock debris. There could be some more artifacts but not intact deposits.

Site 14JF462 is about 250 meters south of 14JF468 by a picnic area that is now closed. The site is either completely destroyed or covered by lake action. No cultural evidence was found.

Site 14JF464 did not have the silt covering in 1988, and there were sherds and debitage. In 1991 sherds and debitage were found again.

Site 14JF465 is the northernmost of the 10 sites along this shoreline, located just north of a small cove. It is on a terrace overlooking the confluence of Little Slough Creek and the Delaware River. This small point of land protrudes out into the valley. The bank rises rather sharply, and the site is destroyed as far as intact deposits. However, due to geographic conditions and low water levels, the author found numerous potsherds in 1991. Most important are two smooth sherds with fine line designs. Reichart found an embossed sherd on this site. The site is multicomponent.

Site 14JF468 is located south of the 14JF450-14JF477-14JF473 group after an open interval. It is on the south bank of a small drainage and extends 50 meters down the shoreline. There could be more artifact material farther out in the lake. With the lake level at 887 feet above MSL in 1988, there were several sherds, one white medium point, one scraper, and rock debris. In 1991 there were several sherds, a large point, and rock debris. Visibility was only about 50 percent because of a green slime on the lake floor. The possibility for more artifacts is good but for intact deposits is poor. The site appears to be a very typical single component Grasshopper Falls phase site.

Site 14JF473 is the southernmost in the 14JF450-14JF477-14JF473 group. It is a historic and prehistoric site. There is a foundation of an old building in the site area. Nothing was found in 1988, and one sherd and one flake were discovered in 1991.

Site 14JF477 is immediately north of 14JF473. In 1988 there were sherds, debitage, and other rock debris. At that time the author wrote in his notes that, if the water would recede below 887 feet above MSL, there might be more artifacts. In 1991 the water level dropped 1 foot below, and 22 sherds, 3 point fragments, 3 resharpened flakes, and a nearly perfect ground greenstone celt were recovered.

Site 14JF486 was well covered with silt in 1988. In 1991 it had been completely uncovered, revealing one circular concentration of artifacts that was probably a hearth or pit. The artifacts included four sherds, one Scallorn point, one awl or drill, one large preform, three manos, two sandstone sharpeners, and a considerable amount of broken and heated rock.

ARTIFACT DESCRIPTIONS

POTTERY

The potsherds from the 28 sites of this survey have not been analyzed formally, but a large number have been viewed by members of the staff at the KSHS Archeology Office. It is common knowledge that much of the pottery in the lake region is from medium and large conical jars of the Grasshopper Falls phase. The typical pottery is mostly cordmarked with a lesser amount smooth and possibly 10 percent miscellaneous. Little art is used in shaping or decorating rims. (Some crossed cordmarking could be considered decorative, but in this report normal cordmarking is considered structural. Art forms used in shaping rims are considered decorative.) Some sherds are blackened on the inside, but most are not. Color is difficult to describe. There are variations from light tan to nearly black, but most are in the range of brownish gray. There is a wide range of paste and of craftsmanship. The temper is mostly grit, heavy, visible, and rough to the touch.

An estimated 90 percent of the pottery in this study collection is within the range of Grasshopper Falls phase, leaving only a small percentage for all of the other cultural groups that may have been in the valley. After 25 years of surface survey, several excavations, and numerous testings, thousands of sherds are on file, and much is known about Grasshopper Falls phase pottery. This report will focus more on the miscellaneous sherds. The author does not have the expertise or the authority to interpret the artifacts but will try to describe what was found in a general way.

For the purpose of description, the miscellaneous sherds are divided by similarities and special features. The first group has more similarities with Pomona variant than it does with Grasshopper Falls phase ware. The color is lighter, some sherds having a slight yellow-orange tint. The jars are smaller and shaped differently. More art was used either by forming or marking. Grit is usually the dominant temper.

The second group is sherds mostly from jars similar to Grasshopper Falls ware, except the rims are decorated by marking, thinning, curving, and shaping. They are considered atypical because they are decorated and were found on only two sites. It is possible that they could be Grasshopper Falls ware also.

The third group of pottery does not fit well with any of the known groups. It is referred to in my notes as the smooth or slick type. Some sherds are almost glazed and have no cordmarking. In his 1979 report Reynolds (1979:70) mentions a small number of polished sherds. Could this possibly be the same type? The author was aware of the type for some time and had talked with the archeologists about it, but there were just not enough sherds to be concerned about. Then in late 1991 the author recovered three sherds from two sites. One rim from 14JF469 had wide (20 mm) scallops, and two body sherds from 14JF465 were marked with very fine line designs, similar to rocker stamping. Several other atypical sherds were found at the same time. Reichart had noted an embossed rim several years earlier on 14JF465.

The author has been informed by colleagues that some Grasshopper Falls phase rims were slightly decorated, and he has seen them illustrated in reports. He assumed that this was common on most Grasshopper Falls phase sites, but the findings of this survey do not support this conclusion. There is a sharp contrast between the numbers of decorated rims on the 5 sites and numbers on the other 23 sites in the survey. This could be an abnormality, but if it did prove to be a fact that only a few sites hold most of the decorated material, this might be helpful in future study of the Grasshopper Falls phase.

In a paper by Brad Logan and Michael Fosha (1991) in *The Kansas Anthropologist* about recent testing of the Reichart and Quixote sites, 10 pottery rim sherds are illustrated. Using the standards that were used in this study, some of these rims would have been classified as atypical to Grasshopper Falls phase. It will be very interesting to learn what information future testing of these two key sites may provide. The dating will be of great interest, especially if it proves to be very late in the Grasshopper Falls phase period.

Two Unique Vessels

Before the author became involved in the Perry project, a concentration of large sherds was picked up by an interested person and kept mud-covered in a box. This was unknown to any other person for six years. The box was then given to the author's daughter, who had led KSHS archeologists to 14JF497 several years earlier. The author cleaned the sherds, discovered that several fit together, and assembled the entire neck section of a vessel. The neck flared out, and there were nine heavy cord rings around it. Previously the author had recovered one sherd with four rings. This sherd fit in the neck section perfectly, so the exact provenience of all the sherds was known. The partially reconstructed jar and the other sherds were loaned to the KSHS for photography and evaluation.

The jar design was unique. Tom Witty, then State Archeologist, found a report from the University of Nebraska that had some information and photos of similar jars from near Glenwood, Iowa, just east of the Missouri River and near its confluence with the Platte River. East of the Missouri valley there are some steep hills. In these hills along the creeks, three cultures have been found in situ: the latest of the cultures is Missouri Bluffs, next is Sterns Creek, and earliest is Northern Woodland Hopewellian. No dates were mentioned in the part of the report seen by the author. Apparently sherds were abundant and have been known about for a long time. Only the Missouri Bluffs ware used from two to nine cord rings around a flared-out neck. The earlier cultures both had more intricate designs, but all of the

jars bore similarities to the partly restored jar from Perry Lake.

Sometime after the final report on the survey was filed with the U.S. Army Corps of Engineers and the Kansas State Historical Society, another interesting thing happened. It was almost unbelievable to the author because the site had been examined so many times. He found a second large neck section with the same nine cord rings plus a number of other body sherds. This jar appeared to be identical to the first, although there were not as many sherds (Walters 1994). The jars must have been made nearby by the same group or even the same potter. Could this be another link between the Grasshopper Falls phase and Hopewell? The author would welcome any information that might help answer this question.

PROJECTILE POINTS

There were very few points (only 25) on the sites in this survey with the exception of 14JF497, where over 100 points and fragments were found. It is clear that the projectile point information is dominated by the components at 14JF497. There are reasons for this situation. Some of the sites have been known for over 20 years; they are destroyed or nearly destroyed, and the artifacts have been lost or picked up. Site 14JF497 was found early as it was being eroded, and many of the artifacts were salvaged.

On 14JF497 there was an abundance of small Woodland points. There are six points that may support the possibility of a very early Plains Village component. The six points that may be affiliated with the Pomona variant are side-notched and unnotched. In addition there are several others that are side corner-notched rather than back corner-notched (as in Scallorn), leaving a larger stem with the notches farther forward. No points were found either double or base-notched. One point has one side notch and one corner notch.

Most of the small points fall within the broad range of the Scallorn type. Some are long and slender, others are short and broad; some are serrated, and some are plain. There is a wide range in the quality of craftsmanship.

Of the 30 medium and large projectile points, most are common for Grasshopper Falls phase sites. A very few points could possibly date to the Late Archaic period. There is one medium-large brown point that is thick and bi-triangular. It does not have barbs and looks Archaic. It is probably one of the oldest artifacts recovered during the survey.

Seven points are described below that are found on some Grasshopper Falls phase sites and are also common to Kansas City Hopewell and Cuesta sites. One reddish medium-sized point, back corner-notched with a small expanding stem, fits exactly with Plate 19c in *Archeology in Kansas* by Patricia J. O'Brien (1984:113). It is listed as Early Ceramic. There are two medium-large blue gray points with large, slightly convex, expanding stems and thick (7-9 mm) blades. They are similar to the Ensor type, which is listed as Early Ceramic (O'Brien 1984:112). There are four large blue gray points similar to the Snyder type (O'Brien 1984:112). Three are thick (7-8 mm), and one is thin (3-4 mm). There are also some other fragments that could not be positively identified.

One other detail of interest is that at 14JF497 the projectile points were present in a ratio of 7 small to 3 medium and large. Site 14JF1415 had one small point; however, on all of the other sites in the study, there were more large and medium than small points, at a ratio of 8 to 4.5--almost opposite from the proportion at 14JF497.

OTHER TOOLS

In addition to the pottery and projectile points, over 100 tools of other types were found on the sites included in this report. They are common for the most part. The assemblage includes an assortment of knives, scrapers, perforators, drills, preforms, metates, manos, chopping tools, hammerstones, abraders, and one shaft smoother. Some of the grinding stones, manos, and hammerstones were left on sites, as was debitage and other rock debris.

The more interesting chipped stone tools include two, four-blade beveled knives, one of which is resharpened and the other apparently is

unsharpened. A classic gouge of olive green chert was found on 14JF498. There is a slightly curved chipped tool, probably a knife or scraper, measuring 12 cm long.

Ground and pecked stone implements include a pecked axe and a perfect ground celt. A heavy chopping or scraping tool with a 14-cm cutting edge has been shaped by pecking. There are six limestone grinding stones: two of the cup variety, one two-sided, one slot type, one with a worn area that has holes drilled over the entire worn surface, and one with a large worn area on one side and small cups on the other side. There are numerous hammerstones, some with pecked or chipped finger and thumb grips. A well-worn, perfectly shaped muller with obvious pecked finger and thumb grips on both sides was found on 14JF1407.

A unique artifact of unknown purpose is a small, tear-shaped cobble that has been man-altered by abrading and drilling. The abrasions are mysteriously oblique rather than straight. It resembles an exaggerated man's head.

SUMMARY

Artifacts were not in abundance on any of the sites with the exception of 14JF497. This site was multicomponent. In addition to typical Grasshopper Falls ware, the assemblage also supported a late component that has similarities to both Plains Village and Plains Woodland. In addition there is evidence of possible earlier occupations.

The evidence for the late components goes both ways. There are more small sizes, jars are more globular, more freedom is exhibited in the shaping of necks and rims, and more decorative marking is used. An assemblage of jars probably would look like Plains Village. On the other hand, side-notched and basal-notched points, which were illustrated in both the Wilmeth (1970) and Witty (1983) reports, were not found. Most of the pottery is grit-tempered, and there is no evidence of any agriculture. The fact that the Plains Village/Plains Woodland affiliation is too close to call might be evidence that the two cultures were closely related at this point in time.

For nearly four years of this study, the author knew that he was finding evidence supporting what was already known from earlier surveys and excavations, but he did not see anything that could be considered new or expanded information. Eventually he began to realize that there was a difference between the numbers and types of artifacts on the 23 sites with remarkably uniform artifact content and the 5 sites that had some atypical artifacts. On the 23 sites, where either pottery or projectile points were present, it appears that the dominant components are mainstream Grasshopper Falls phase.

On three of the five remaining sites, in addition to typical Grasshopper Falls ware, there were decorated sherds that appear to be atypical and remain unidentified. Each of these sites (14JF465, 14JF469 and 14JF497) are in a strategic, first-choice location and are multi-component. Also nearly all of the decorated sherds were from the five sites. As this was further investigated, it was learned that the ratios of small points to medium and large points was about 3 to 1 on the 5 sites, which was nearly opposite of the proportions on the other 23 sites.

With no decision as to what groups to credit, the author believes that it is safe to say that 14JF497, 14JF469, and 14JF465, contained evidence of components that could be earlier than or contemporary with the Grasshopper Falls phase and that 14JF497, 14JF1415, 14JF1416, and unrecorded Area A contained evidence of very late components near the end of the Grasshopper Falls phase period. If this fieldwork and reporting has augmented the data from the Perry Lake area in any way, it is in this information about the early and late parts of the period.

Acknowledgments. Without the excellent cooperation of the U.S. Army Corps of Engineers and the Kansas State Historical Society, this project would not have been possible. Special thanks go to Randall Thies for information, good advice, and much patience during the first years of the project, to Virginia Wulfkuhle for much assistance in publishing this article, and to Michael Irvin for producing the map on page 72.

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BOOK REVIEW

Sourcing Prehistoric Ceramics at Chodistaas Pueblo, Arizona: The Circulation of People and Pots in the Grasshopper Region. MARIA NIEVES ZEDENO with foreword by J. JEFFERSON REID. University of Arizona Press, Tucson, 1994. xiii + 151 pp., figures, tables, appendices, references, index. $12.95 (paper). ISBN 0-8165-1455-0.
Reviewed by Jim D. Feagins, Saint Joseph Museum

Every so often an archeological book is published about research questions in a specific geographical region that also contains an extraordinary wealth of information on theory and methods useful to many archeologists regardless of the region in which they work. *Sourcing Prehistoric Ceramics at Chodistaas Pueblo, Arizona* is such a publication. Approximately half of the text is concerned with the background or history of, the theory behind, and the methods for sourcing prehistoric ceramics. The remainder of the text is a case study of various ways locally made pottery can be distinguished from imported wares at the Chodistaas Pueblo in east-central Arizona. To archeologists outside the Southwest, the study can be considered an example of ceramic sourcing methods in use.

It is not unusual for pottery to serve as an important "keystone" for interpreting a site and its interrelationship with other sites and peoples. Archeologists have often based important interpretations about the movements and interaction of prehistoric people on assumptions concerning the percentages of "local" and "nonlocal" pottery. With accurate sourcing information it is possible that quite a few interpretations in the archeological literature of the past might have been written differently. Considering the tremendous importance of pottery to most archeologists, extracting as much information as possible from the lowly potsherd should have a high priority, especially when it can be used to great benefit when combined with other data to help solve regional as well as intersite questions.

Zedeno ably demonstrates that, without the use of sourcing techniques, many of the interpretations archeologists commonly make concerning the origin of various pots and sherds often could be in error and are usually over simplified. Without a firm, factual understanding of the sources of ceramics on specific sites, some of the important cultural "conclusions" reached possibly contain more speculation than most would care to admit or even realize. Archeologists often assume that the more common types or wares of pottery on a site were produced locally. Zedeno maintains that this assumption should always be questioned and that methods of research should be employed to gain definitive answers.

Zedeno combines traditional research objectives with multi-analytical procedures. A tridimensional approach, using style, technology, and provenience, provides independent but often complementary evidence for identifying local from nonlocal prehistoric pottery. A clay survey and compositional analysis of Chodistaas vessels provide much of the data used in this study. The chemical and petrological identification of local clays and temper sources in a catchment area are compared with similar studies on the pottery from the site. The raw materials, forming techniques, surface treatment and finishing, and firing techniques were analyzed. Some of the tests Zedeno describes are: workability tests, plasticity tests, drying shrinkage amounts, firing performance tests, refiring sherds, instrumental neutron activation analysis, inductively coupled plasma emission spectroscopy, and temper analysis. An analysis of manufacturing technology, style, and paste composition of pottery provides the basis for isolating the behaviors involved in the production and distribution of various ceramic wares and types. Of course traditional studies of pottery styles were also conducted. This and other data along with careful theoretical considerations allow interpretations to be made concerning the movement of pots, the movement of people, and the movement of raw materials at Chodistaas Pueblo.

The first six chapters will prove to be of the most interest to Plains archeologists. This monograph is especially useful for the innovations it presents, the consolidation of

previously scattered information on the topic, and the demonstration of the ways the data obtained can be interpreted in prehistory. The general concepts presented in this volume are not completely new to the Plains, but this Southwest volume has gathered the methods and theory in one source and organized it in a way that will be useful to other researchers wanting to emulate this type of research in other regions. This well written but inexpensive volume is deserving of more attention outside the Southwest than it will probably attract. This publication can be obtained from the University of Arizona Press, 1230 N. Park Ave., Suite 102, Tucson, AZ 85719.

To summarize, *Sourcing Prehistoric Ceramics at Chodistaas Pueblo, Arizona* is a useful reference to demonstrate multiple analytical methods for identifying actual sources of prehistoric ceramics. This monograph was published for and will principally be read by archeologists interested in the Southwest; however, the book is useful to archeologists in other regions because it consolidates information on the methods and theory of prehistoric ceramic sourcing.

ABOUT THE AUTHORS

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Prior to his association with the Saint Joseph Museum, Jim served as archeologist for the Kansas City Museum from 1976 to 1990. Also this is his twenty-ninth year of teaching science for Consolidated School District #4 in Grandview. Jim received a B.S. in Education from Kansas State College at Pittsburg in 1965 and a M.N.S. degree from the University of Oklahoma in 1973. Active in promoting archeological education, he is President Emeritus of the Missouri Archaeological Society. Jim is a life member and former officer of the KAA. He has over 200 articles, reviews, and reports in print. His primary area of research interest concerns the prehistory of the eastern Central Plains with a focus on the ceramic period.

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The charming, Rasputin-like F. W. Scott is a member of the KAA. Mr. Scott has spent several years researching the problem of tradeware in the Central Plains tradition and has been heard conversing with sherds.

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Dick or Gates, as he is variously known here in the midwest or back East in Maryland, began his interest in archeology early in life. While in his late teens, he earned the confidence of Dr. Waldo R. Wedel through his excavations of several Potomac River archeological sites. This awarded him a position on Wedel's first archeological team out of the Smithsonian to explore western Missouri and Kansas in the summers of 1937. This was followed by three more expeditions. During this period and following World War II, he attended George Washington University part-time, receiving a B.A. in Geography in 1950. He worked as a civilian employee for the U.S. Department of the Army, retiring in 1973. He was then employed part-time by the Iowa Office of the State Archeologist on site excavations and contract archeology, retiring once again in 1992. During this period with the OSA, he held the office of President of the Iowa Archeological Society for 12 years. He has published many reports and articles.

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Rodney Staab is a member of the Kansas Anthropological Association and past president of the Kansas City Archaeological Society. He is a descendant of families that have farmed or resided in the Saline and Smoky Hill valleys for over 115 years. Rodney is presently a Kansas State Historical Society employee and curator of the Grinter Place State Historic Site in Kansas City, Kansas. An earlier version of this paper was read at the Flint Hills Archaeological Conference, Wichita State University, May 26, 1993.

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Daryl Walters is a member of the KAA and the local Shawnee Chapter. He is a volunteer cultural resources investigator for the local U.S. Army Corps of Engineers offices at Perry and Clinton Lake areas. He has served on a number of field projects and is a familiar face around the Kansas State Historical Society Archeology Office, where he volunteers in the artifact lab every Tuesday. Usually he is engaged in just one more project before retiring, the current last project being a four-year survey of prehistoric sites in the Clinton Lake area.

INFORMATION FOR AUTHORS

Manuscripts are actively solicited for *The Kansas Anthropologist*. Articles should have a relationship to Kansas anthropology (archeology, ethnography, ethnohistory, cultural/social anthropology, physical anthropology, etc.). All manuscripts must be the original, unpublished work of the authors. The varied readership of the journal should be kept in mind when preparing papers. **Jargon should be avoided.** The style authority is *American Antiquity* (see Volume 57, Number 4, 1992). Professionals are expected to submit their manuscripts in this form; others who are not familiar with the *American Antiquity* style guide will receive editorial assistance. Illustrations are encouraged; at least two or three should be included if possible. All illustrations must be of reproduction quality and should be designed to fit within 6 x 8.5-inch margins, including caption. If protected by copyright, this must be noted so permission for use can be obtained. If IBM compatible computer technology is available, please submit papers on diskette in WordPerfect 5.1, as well as in single hard copy. Manuscripts will be reviewed by the editorial committee who will judge whether or not articles are appropriate and what revisions may be necessary for publication. Outside reviewers may be used.

Book reviews are also requested. If you plan to review a book but have not been requested to do so by the editor, it would be best to check with the editor to make sure that a review of that work has not already been arranged.

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